USED BY U S BRANCH MINT
AT CHARLOTTE N C

Col. Jno. H. Wheeler, Supt. Branch Mint
1841 To Jos. W. Hampton Dr.

April 11th	To publishing Proposals for Wood, 4 w. 1sq. —	$1.75
June 16	" printing 2 quires Blank Receipts —	2.50
		$4.25

1841 July 17th Recd. payment.
Jos. W. Hampton

Private account for Blanks —	$3.00
	$7.25

Col. Heaton
will please
hand this
volume to
W. S. Porter Mrs
Charles

L. C. Glenn.
1900.

ACT OF JANUARY 18, 1837,

RELATIVE TO

THE MINT AND COINAGE

OF THE

UNITED STATES.

TO WHICH ARE ANNEXED

THE OTHER LEGAL PROVISIONS

STILL IN FORCE ON THE SAME SUBJECT.

PHILADELPHIA:
PRINTED FOR THE USE OF THE MINT.
1837.

Memorandum of duty to be attended to

Monthly

Report to the Director (see his letter of 14^th. Feb. 38.)
Check the Bullion Journal & Register by the assayer's Rep^ts & Ledger by the Journal
check contingent a/c^s by the vouch^s filed, on the Journal & Ledger
Memorandum of Coin and Deposits
account of Gold Bullion rec^d & how disposed of
account of Silver Bullion

Quarterly

Report of the month for Director
Returns to the Treasury Department of Receipts & Expenditures
3 Same for fund of metal for coinage
4 Same to the Treasurer of the U S

AN ACT

SUPPLEMENTARY TO THE ACT, ENTITLED "AN ACT ESTABLISHING A MINT, AND REGULATING THE COINS OF THE UNITED STATES."

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the officers of the Mint of the United States shall be a Director, a Treasurer, an Assayer, a Melter and Refiner, a Chief Coiner, and an Engraver, to be appointed by the President of the United States, by and with the advice and consent of the Senate.

SEC. 2. *And be it further enacted*, That the respective duties of the officers of the Mint shall be as follows:

First. The Director shall have the control and management of the Mint, the superintendence of the officers and persons employed therein, and the general regulation and supervision of the business of the several Branches. And in the month of January of every year he shall make report to the President of the United States of the operations of the Mint and its Branches for the year preceding; and also to the Secretary of the Treasury, from time to time, as said lowing officers of the Mint, before entering upon the execution of their respective offices, shall become bound to the United States, with one or more sureties, to the satisfaction of the Secretary of the Treasury, in the sums hereinafter mentioned, with condition for the faithful and diligent performance of the duties of their offices, viz: The Treasurer in the sum of ten thousand dollars; the Assayer in the sum of five thousand dollars; the Melter and Refiner in the sum of ten thousand dollars; and the Chief Coiner in the sum of ten thousand dollars. And that similar bonds may also be required of the assistants and clerks, in such sums as the Director shall determine, with the approbation of the Secretary of the Treasury.

SEC. 7. *And be it further enacted*, That there shall be allowed to the officers of the Mint the following salaries per annum:—To the Director, for his services, including traveling expenses incurred in visiting the different Branches, and all other charges whatever, three thousand five hundred dollars; to the Treasurer, Assayer, Melter and Refiner, Chief Coiner, and Engraver, each, two thousand dollars; to the assistants and clerks, such annual salaries shall be allowed as the Director may determine, with the approbation of the President: *Provided*, That an assistant shall not receive more than fifteen hundred dollars, and that a clerk shall not receive more than twelve hundred dollars. To the workmen and servants shall be allowed such wages, to be determined by the Director, as may be customary and reasonable, according to their respective stations and occupations; and that the salaries provided for in this section shall be payable in quarterly instalments.

SEC. 8. *And be it further enacted*, That the

Rules as regards the first Melting
of deposits of Gold.

When the deposits are made in Bars
they are not melted over unless there
is reason to suspect that from
carelessness or fraud, they are not
homogenous as to fineness - but they
are delivered at once to the assayer
even although they may be brittle &
of bad quality.

When coins or fragments of good metal
re deposited they are melted down with
protecting flux, borax; and no loss is
ccasioned.

hen gold dust or amalgam is deposited
t is melted down with a refining flux
itrate of potash with borax,

This first melting is done under the
esponsibility of the Treasurer,

The deposit is never melted more
than once before being officially
laced in the hands of the assayer.

ee letter of Director. June 26.'38.

A Statement of the loss on
Melting Gold, Bullion at
the U.S. Mint at Phila
amalgam from North Carolina

Weight before Melting			Weight after		
ozs.	dwts.	grs	ozs.	dwts	grs
325	0	12	312	12	12
60	19	12	58	16	12
53	16	0	51	0	6
6	17	12	6	5	18
38	3	12	37	0	0
25	14	12	24	15	0
28	9	12	27	10	0
68	11	12	65	12	0
154	10	0	146	4	0
28	18	0	27	18	6
143	15	0	138	13	0
37	11	0	36	2	0
34	10	0	33	4	0
97	6	0	93	12	0
1104	2	12	1059	5	6

Loss on the whole amt = 4 pr.ct.

standard for both gold and silver coins of the United States shall hereafter be such, that of one thousand parts by weight, nine hundred shall be of pure metal, and one hundred of alloy; and the alloy of the silver coins shall be of copper; and the alloy of the gold coins shall be of copper and silver, provided that the silver do not exceed one half of the whole alloy.

Sec. 9. *And be it further enacted*, That of the silver coins, the dollar shall be of the weight of four hundred and twelve and one half grains; the half dollar of the weight of two hundred and six and one fourth grains; the quarter dollar of the weight of one hundred and three and one eighth grains; the dime, or tenth part of a dollar, of the weight of forty-one and one fourth grains; and the half dime, or twentieth part of a dollar, of the weight of twenty and five eighth grains. And that dollars, half dollars, quarter dollars, dimes, and half dimes, shall be legal tenders of payment, according to their nominal value, for any sums whatever.

Sec. 10. *And be it further enacted*, That of the gold coins, the weight of the eagle shall be two hundred and fifty-eight grains; that of the half eagle one hundred and twenty-nine grains; and that of the quarter eagle sixty-four and one half grains. And that, for all sums whatever, the eagle shall be a legal tender of payment for ten dollars; the half eagle for five dollars; and the quarter eagle for two and a half dollars.

Sec. 11. *And be it further enacted*, That the silver coins heretofore issued at the Mint of the United States, and the gold coins issued since the thirty-first day of July, one thousand eight hundred and thirty-four, shall continue to be legal tenders of payment, for their nominal values, on the same terms as if they were of the coinage provided for by this act.

Sec. 12. *And be it further enacted*, That of the copper coins, the weight of the cent shall be one hundred and sixty-eight grains, and the weight of the half cent eighty-four grains. And the cent shall be considered of the value of one hundredth part of a dollar, and the half cent of the value of one two-hundredth part of a dollar.

Sec. 13. *And be it further enacted*, That upon the coins struck at the Mint there shall be the following devices and legends: Upon one side of each of said coins there shall be an impression emblematic of liberty, with an inscription of the word Liberty, and the year of the coinage; and upon the reverse of each of the gold and silver coins, there shall be the figure or representation of an eagle, with the inscription United States of America, and a designation of the value of the coin; but on the reverse of the dime and half dime, cent and half cent, the figure of the eagle shall be omitted.

Sec. 14. *And be it further enacted*, That gold and silver bullion brought to the Mint, for coinage, shall be received and coined, by the proper officers, for the benefit of the depositor: *Provided*, That it shall be lawful to refuse, at the Mint, any deposite of less value than one hundred dollars, and any bullion so base as to be unsuitable for the operations of the Mint: *And provided, also*, That when gold and silver are combined, if either of these metals be in such small proportion that it cannot be separated advantageously, no allowance shall be made to the depositor for the value of such metal.

Sec. 15. *And be it further enacted*, That when

bullion is brought to the Mint, for coinage, it shall be weighed by the Treasurer, in the presence of the depositor, when practicable, and a receipt given, which shall state the description and weight of the bullion: *Provided*, That when the bullion is in such a state as to require melting before its value can be ascertained, the weight after melting shall be considered as the true weight of the bullion deposited.

Sec. 16. *And be it further enacted*, That from every parcel of bullion deposited for coinage, the Treasurer shall deliver to the Assayer a sufficient portion for the purpose of being assayed; but all such bullion remaining from the operations of the assay shall be returned to the Treasurer by the Assayer.

Sec. 17. *And be it further enacted*, That the Assayer shall report to the Treasurer the quality or standard of the bullion assayed by him; and he shall also communicate to the Treasurer such information as will enable him to estimate the amount of the charges hereinafter provided for, to be made to the depositor, for the expenses of converting the bullion into standard metal fit for coinage.

Sec. 18. *And be it further enacted*, That the only subjects of charge by the Mint to the depositor shall be the following:—For refining, when the bullion is below standard; for toughening, when metals are contained in it which render it unfit for coinage; for copper used for alloy, when the bullion is above standard; for silver introduced into the alloy of gold; and for separating the gold and silver, when these metals exist together in the bullion; and that the rate of these charges shall be fixed, from time to time, by the Director, with the concurrence of the Secretary of the Treasury, so as not to exceed, in their judgment, the actual expense to the Mint of the materials and labour employed in each of the cases aforementioned; and that the amount received from these charges shall be accounted for, and appropriated for defraying the contingent expenses of the Mint.

SEC. 19. *And be it further enacted*, That from the report of the Assayer, and the weight of the bullion, the Treasurer shall estimate the whole value of each deposite, and also the amount of the charges or deductions, if any; of all which he shall give a detailed memorandum to the depositor; and he shall also give, at the same time, under his hand, a certificate of the net amount of the deposite, to be paid in coins of the same species of bullion as that deposited.

SEC. 20. *And be it further enacted*, That parcels of bullion shall be, from time to time, transferred by the Treasurer to the Melter and Refiner; that a careful record of these transfers, noting the weight and character of the bullion, shall be kept; and that the bullion thus placed in the hands of the Melter and Refiner shall be subjected to the several processes which may be necessary to form it into ingots of the legal standard, and of a quality suitable for coinage.

SEC. 21. *And be it further enacted*, That the ingots thus prepared shall be assayed by the Assayer, and if they prove to be within the limits allowed for deviation from the standard, they shall be transferred by the Melter and Refiner to the Treasurer, accompanied by the Assayer's certificate of their fineness; and that a careful record of the transfer shall be kept by the Treasurer.

SEC. 22. *And be it further enacted*, That no ingots of gold shall be used for coinage of which the quality differs more than two thousandths from the legal

For usage of mint as regards the Reports of the assayer. —

See letters of the Director
of date 10th Jan. '38
do 5 Apl. '38
— 3 Sept. '38
31. Jan. '39

My letters to assayer, 24th Apl. '38
14. Feb. '39

On the subject of the settlement of the accounts of the Aſsayer & Coiner, as to wastage, the Law is Explicit. These Officers have no fixed allowance for wastage, but must return to the Treasurer all the Gold and Silver that they have in their poſseſsion. Inasmuch however as in consequence of neceſsary waste during the Mint operations, the ingots & coins returned to the Treasurer will fall short of the amount of bullion delivered to him the Melter & Coiner respectively are to be credited in their accounts with this difference, so that their accounts may be balanced, provided that this difference does not Exceed two thousandths of the whole amt delivered by the Treasurer. There are to be no perquisites in the Mint.

Letter of Director
26. Sep '38

standard ; and that no ingots of silver shall be used for coinage of which the quality differs more than three thousandths from the legal standard.

SEC. 23. *And be it further enacted*, That in the Treasurer's account with the Melter and Refiner, the Melter and Refiner shall be debited with the standard weight of all the bullion placed in his hands, that is to say, with the weight of metal of legal standard fineness which it will make ; and that he shall be credited by the standard weight of all the ingots delivered by him to the Treasurer ; and that once at least in every year, at such time as the Director shall appoint, the Melter and Refiner shall deliver up to the Treasurer all the bullion in his possession, in order that his accounts may be settled up to that time ; and, in this settlement, he shall be entitled to a credit for the difference between the whole amount of bullion delivered to him and received from him, since the last settlement, as an allowance for necessary waste : *Provided*, That this allowance shall not exceed two thousandths of the whole amount of gold and silver bullion, respectively, that had been delivered to him by the Treasurer.

SEC. 24. *And be it further enacted*, That the Treasurer shall, from time to time, deliver over to the Chief Coiner, ingots for the purpose of coinage ; that he shall keep a careful record of these transfers, noting the weight and description of the ingots ; and that the ingots thus placed in the hands of the Chief Coiner shall be passed through the several processes necessary to make from them coins in all respects conformable to law.

SEC. 24. *And be it further enacted*, That in adjusting the weights of the coins, the following deviations from the standard weight shall not be exceeded in any of the single pieces:—In the dollar and half dollar, one grain and a half; in the quarter dollar, one grain; in the dime and half dime, half a grain; in the gold coins, one quarter of a grain; in the copper coins, one grain in the pennyweight; and that in weighing a large number of pieces together, when delivered from the Chief Coiner to the Treasurer, and from the Treasurer to the depositors, the deviations from the standard weight shall not exceed the following limits: Four pennyweights in one thousand dollars; three pennyweights in one thousand half dollars; two pennyweights in one thousand quarter dollars; one pennyweight in one thousand dimes; one pennyweight in one thousand half dimes; two pennyweights in one thousand eagles; one and a half pennyweight in one thousand half eagles; one pennyweight in one thousand quarter eagles.

SEC. 26. *And be it further enacted*, That the Chief Coiner shall, from time to time, as the coins are prepared, deliver them over to the Treasurer, who shall keep a careful record of their kind, number, and weight; and that in receiving the coins it shall be the duty of the Treasurer to see whether the coins of that delivery are within the legal limits of the standard weight; and if his trials for this purpose shall not prove satisfactory, he shall cause all the coins of this delivery to be weighed separately, and such as are not of legal weight shall be delivered to the Melter and Refiner, as standard bullion, to be again formed into ingots and recoined.

SEC. 27. *And be it further enacted*, That at every delivery of coins made by the Chief Coiner to the Treasurer, it shall be the duty of the Treasurer, in

Value of Standard Gold

Grs.		Cts.
1	=	3
2	=	7
3	=	11
4	=	15
5	=	19
6	=	23
7	=	27
8	=	31
9	=	34
10	=	38
11	=	42
12	=	46
13	=	50
14	=	54
15	=	58
16	=	62
17	=	65
18	=	69
19	=	73
20	=	77
21	=	81
22	=	85
23	=	89

Dwts.		D. Cts
1	=	93
2	=	1. 86
3	=	2. 79
4	=	3. 72
5	=	4. 65
6	=	5. 58
7	=	6. 51
8	=	7. 44
9	=	8. 37
10	=	9. 30
11	=	10. 23
12	=	11. 16
13	=	12. 09
14	=	13. 02
15	=	13. 95
16	=	14. 88
17	=	15. 81
18	=	16. 74
19	=	17. 67

Value of Standard Gold

Decimals of an ounce.

Dec.	D. C
001	1
005	9
010	18
020	37
030	55
040	74
050	93
060	1.11
070	1.30
080	1.48
090	1.67
100	1.86
200	3.72
300	5.58
400	7.44
500	9.30
600	11.16
700	13.02
800	14.88
900	16.74
999	18.58

OZ.	D. C
1	18.60
2	37.20
3	55.81
4	74.41
5	93.02
6	111.62
7	130.23
8	148.83
9	167.44
10	186.04
11	204.65
12	223.25
13	241.86
14	260.46
15	279.06
16	297.67
17	316.27
18	334.88
19	353.48
20	372.09
21	390.69
22	409.30
23	427.90
24	446.51
25	465.11
26	483.72
27	502.32

OZ	D. C.	OZ	D. C
28	520.93	75	1.395.34
29	539.53	100	1.860.46
30	558.13	200	3.720.93
31	576.74	300	5.581.39
32	595.34	400	7.441.86
33	613.95	500	9.302.32
34	632.55	600	11.162.79
35	651.16	700	13.023.25
36	669.76	800	14.883 72
37	688.37	900	16.744.18
38	706.97	1000	18.604.65
39	725.58		
40	744.18		
41	762.79		
42	781.39		
43	800.		
44	818.60		
45	837.20		
46	855.81		
47	874.41		
48	893.02		
49	911.62		
50	930.23		

You will reserve for our annual assay from the deliveries made to You from time to time by the Coiner one piece of coin out of every 500 whether half Eagles or quarter eagles, adhering to this proportion as nearly as you find convenient, & practicable; but still taking at least one piece from every melt of Ingots.

Letter of Director 5 Apl. 38

the presence of the Assayer, to take, indiscriminately, a certain number of pieces of each variety for the annual trial of coins, (the number being prescribed by the Director,) which shall be carefully labeled and deposited in a chest appropriated for the purpose, kept under the joint care of the Treasurer and Assayer, and so secured that neither can have access to its contents without the presence of the other.

Sec. 28. *And be it further enacted*, That the Chief Coiner shall, from time to time, deliver to the Treasurer the clippings and other portions of bullion remaining after the process of coining, and that the Treasurer shall keep a careful record of their amount.

Sec. 29. *And be it further enacted*, That, in the Treasurer's account with the Chief Coiner, the Chief Coiner shall be debited with the amount in weight of standard metal of all the bullion placed in his hands, and credited with the amount, also by weight, of all the coins, clippings, and other bullion delivered by him to the Treasurer, and that once at least in every year, at such time as the Director shall appoint, the Chief Coiner shall deliver to the Treasurer all the coins and bullion in his possession, so that his accounts may be settled up to that time; and, in this settlement, he shall be entitled to a credit for the difference between the whole amount of ingots delivered to him, and of the coins and bullion received from him, since the last settlement, as an allowance for necessary waste: *Provided*, That this allowance shall not exceed two thousandths of the whole amount of the silver, or one and one half thousandth of the whole amount of the gold, that had been delivered to him by the Treasurer.

Sec. 30. *And be it further enacted*, That when the coins which are the equivalent to any deposite of bullion are ready for delivery, they shall be paid over to the depositor, or his order, by the Treasurer, on a warrant from the Director ; and the payments shall be made, if demanded, in the order in which the bullion shall have been brought to the Mint, giving priority according to priority of deposite only ; and that in the denominations of coin delivered, the Treasurer shall comply with the wishes of the depositor, unless when impracticable or inconvenient to do so, in which case the denominations of coin shall be designated by the Director.

SEC. 31. *And be it further enacted*, That, for the purpose of enabling the Mint to make the returns to depositors with as little delay as possible, it shall be the duty of the Secretary of the Treasury to keep in the said Mint, when the state of the Treasury will admit thereof, a deposite of such amount of public money, or of bullion procured for the purpose, as he shall judge convenient and necessary, not exceeding one million of dollars, out of which those who bring bullion to the Mint may be paid the value thereof, as soon as practicable after this value has been ascertained ; that the bullion so deposited shall become the property of the United States ; that no discount or interest shall be charged on money so advanced ; and that the Secretary of the Treasury may at any time withdraw the said deposite, or any part thereof, or may, at his discretion, allow the coins formed at the Mint to be given for their equivalent in other money.

SEC. 32. *And be it further enacted*, That, to secure a due conformity in the gold and silver coins to their respective standards and weights, an annual trial shall be made of the pieces reserved for this purpose at the Mint and its Branches, before the judge of the

district court of the United States for the eastern district of Pennsylvania, the attorney of the United States for the eastern district of Pennsylvania, and the collector of the port of Philadelphia, and such other persons as the President shall from time to time designate for that purpose, who shall meet as commissioners for the performance of this duty, on the second Monday in February, annually, and may continue their meetings by adjournment, if necessary; and if a majority of the commissioners shall fail to attend at any time appointed for their meeting, then the Director of the Mint shall call a meeting of the commissioners at such other time as he may deem convenient; and that before these commissioners, or a majority of them, and in the presence of the officers of the Mint, such examination shall be made of the reserved pieces as shall be judged sufficient; and if it shall appear that these pieces do not differ from the standard fineness and weight by a greater quantity than is allowed by law, the trial shall be considered and reported as satisfactory; but if any greater deviation from the legal standard or weight shall appear, this fact shall be certified to the President of the United States, and if, on a view of the circumstances of the case, he shall so decide, the officer or officers implicated in the error shall be thenceforward disqualified from holding their respective offices.

Sec. 33. *And be it further enacted*, That copper bullion shall be purchased for the Mint, from time to time, by the Treasurer, under instructions from the Director; that the cost shall be paid from the fund hereinafter provided for; and that the copper bullion shall be of good quality, and in the form of planchets, fit for passing at once into the hands of the Chief Coiner.

Sec. 34. *And be it further enacted*, That the copper planchets shall be delivered, from time to time, by the Treasurer to the Chief Coiner, to be by him coined; and all such copper shall be returned to the Treasurer by the Chief Coiner, weight for weight, without allowance for waste.

Sec. 35. *And be it further enacted*, That it shall be the duty of the Treasurer of the Mint to deliver the copper coins in exchange for their legal equivalent in other money, to any persons who shall apply for them: *Provided*, That the sum asked for be not less than a certain amount to be determined by the Director, and that it be not so great as, in his judgment, to interfere with the capacity of the Mint to supply other applicants.

Sec. 36. *And be it further enacted*, That the copper coins may, at the discretion of the Director, be delivered in any of the principal cities and towns of the United States, at the cost of the Mint for transportation.

Sec. 37. *And be it further enacted*, That the money received by the Treasurer in exchange for copper coins, shall form a fund in his hands, which shall be used to purchase copper planchets, and to pay the expense of transportation of copper coins; and that if there be a surplus, the same shall be appropriated to defray the contingent expenses of the Mint.

Sec. 38. *And be it further enacted*, That all acts or parts of acts heretofore passed, relating to the Mint and coins of the United States, which are inconsistent with the provisions of this act, be, and the same are hereby, repealed.

Approved, *Jan.* 18th, 1837.

OTHER LEGAL PROVISIONS

STILL IN FORCE.

I. PROVISIONS OF THE CONSTITUTION OF THE UNITED STATES.

The congress shall have power—To coin money; regulate the value thereof, and of foreign coins; and fix the standard of weights and measures. (Art. I, Sect. 8.)

No state shall coin money, or make any thing but gold and silver a legal tender in payment of debts. (Art. I, Sect. 10.)

II. ESTABLISHMENT AND LOCATION OF THE MINT.

Be it enacted, &c.—That a Mint, for the purpose of a national coinage, be, and the same is established, to be situate and carried on at the seat of government of the United States, for the time being. (Act of April 2d, 1792: the seat of government being then at Philadelphia.)

Be it enacted, &c., That, until the 4th day of March, 1801, the Mint shall remain in the city of Philadelphia, and be carried on as heretofore, under the laws now in force, any law to the contrary notwithstanding. (Act of May 14th, 1800.)

Be it enacted, &c., That the Mint shall remain in

Philadelphia until the 4th day of March, in the year 1803. (Act of March 3d, 1801.)

This act was revived and continued in force and operation, for successive periods of five years, until the 4th of March, 1828, when the location of the Mint at Philadelphia was made permanent, by the following enactment:

Be it enacted, &c., That the act entitled "An Act concerning the Mint," approved March the third, one thousand eight hundred and one, be, and the same hereby is, revived and continued in force and operation, until otherwise provided by law. (Act of May 19th, 1828, Sect. 1.)

III. MONEY OF ACCOUNT OF THE UNITED STATES.

Be it enacted, &c., That the money of account of the United States shall be expressed in dollars or units, dimes or tenths, cents or hundredths, and mills or thousandths; a dime being the tenth part of a dollar, a cent the hundredth part of a dollar, a mill the thousandth part of a dollar; and that all accounts in the public offices, and all proceedings in the courts of the United States, shall be kept and had in conformity to this regulation. (Act of April 2d, 1792, Sect. 20.)

IV. COPPER COINS CURRENT.

Be it enacted, &c., That after the expiration of six calendar months from the time when there shall have been paid into the Treasury, by the said Director, in cents and half cents, a sum not less than fifty thousand dollars—which time shall forthwith be announced by the Treasurer in at least two gazettes or newspa-

pers, published at the seat of the government of the United States, for the time being—no copper coins or pieces whatsoever, except the said cents and half cents, shall pass current as money, or shall be paid or offered to be paid, or received in payment for any debt, demand, claim, matter or thing whatsoever; and all copper coins or pieces, except the said cents and half cents, which shall be paid or offered to be paid, or received in payment, contrary to the prohibition aforesaid, shall be forfeited; and every person by whom any of them shall have been so paid or offered to be paid, or received in payment, shall also forfeit the sum of ten dollars; and the said forfeiture and penalty shall and may be recovered with costs of suit, for the benefit of any person by whom information of the incurring thereof shall have been given. (Act of May 8th, 1792, Sect. 2. The announcement required having been duly made by the Treasurer of the United States, this enactment is in full force.)

V. FOREIGN COINS CURRENT.

GOLD COINS.

Sec. 1. *Be it enacted, &c.*, That, from and after the thirty-first day of July next, the following gold coins shall pass current as money within the United States, and be receivable in all payments, by weight, for the payment of all debts and demands, at the rates following; that is to say—the gold coins of Great Britain, Portugal, and Brazil, of not less than twenty-two carats fine, at the rate of ninety-four cents and eight tenths of a cent per pennyweight; the gold coins of France, nine tenths fine, at the rate of ninety-three cents and one tenth of a cent per pennyweight;

and the gold coins of Spain, Mexico, and Colombia, of the fineness of twenty carats, three grains and seven sixteenths of a grain, at the rate of eighty-nine cents and nine tenths of a cent per pennyweight.

Sec. 2. *And be it further enacted*, That it shall be the duty of the Secretary of the Treasury to cause assays of the aforesaid gold coins, made current by this act, to be had at the Mint of the United States, at least once in every year, and to make report of the result thereof to Congress.

SILVER COINS.

Sec. 1. *Be it enacted, &c.*, That, from and after the passage of this act, the following silver coins shall be of the legal value, and shall pass current as money within the United States, by tale, for the payment of all debts and demands, at the rate of one hundred cents the dollar; that is to say—the dollars of Mexico, Peru, Chili, and Central America, of not less weight than four hundred and fifteen grains each; and those restamped in Brazil of the like weight; and of not less fineness than ten ounces fifteen pennyweights pure silver in the Troy pound of twelve ounces of standard silver. And the five-franc pieces of France, when of not less fineness than ten ounces and sixteen pennyweights, in twelve ounces Troy weight of standard silver, and weighing not less than 384 grains each, at the rate of ninety-three cents each.

Sec. 2. *And be it further enacted*, That it shall be the duty of the Secretary of the Treasury to cause assays of the aforesaid silver coins, made current by this act, to be had at the Mint of the United States, at least once in every year, and to make report of the result thereof to Congress. (Acts of June 28th, 1834.)

1485
179
1664

VI. OLD STANDARDS AND WEIGHTS OF COINS.

SILVER COINS.

Be it enacted, &c., That the standard for all silver coins of the United States shall be one thousand four hundred and eighty-five parts fine, to one hundred and seventy-nine parts alloy; and, accordingly, that one thousand four hundred and eighty-five parts, in one thousand six hundred and sixty-four parts of the entire weight of each of the said coins, shall consist of pure silver, and the remaining one hundred and seventy-nine parts of alloy—which alloy shall be wholly of copper. (Act of April 2d, 1792, Sec. 13.) [This standard corresponds to 892.4 thousandths.]

By Sec. 9 of the same act, the weight of the dollar is fixed at four hundred and sixteen grains of the above standard, and the weight of the parts of the dollar in proportion.

This standard and weight were retained until the end of the year 1836, and the coins of this period are still legal tenders of payment.

GOLD COINS.

Be it enacted, &c., That the standard for all gold coins of the United States shall be eleven parts fine to one part alloy; and, accordingly, that eleven parts in twelve of the entire weight of each of the said coins shall consist of pure gold, and the remaining one twelfth part of alloy; and the said alloy shall be composed of silver and copper, not exceeding one half silver, as shall be found convenient. (Act of April 2d, 1792, part of Sec. 12.)

This standard corresponds to twenty-two carats, or to 916⅔ thousandths.

By Sec. 9 of the same act, the weight of the eagle was fixed at two hundred and seventy grains, and the weight of the half and quarter eagle in proportion.

This standard and weight were retained until the end of July, 1834, when the following enactments came into force.

Be it enacted, &c., That the gold coins of the United States shall contain the following quantities of metal; that is to say—each eagle shall contain two hundred and thirty-two grains of pure gold, and two hundred and fifty-eight grains of standard gold; each half eagle, one hundred and sixteen grains of pure gold, and one hundred and twenty-nine grains of stan~~dard gold; each quarter eagle shall contain fifty~~-eight grains of pure gold, and sixty-four and a half grains of standard gold. Every such eagle shall be of the value of ten dollars; every such half eagle shall be of the value of five dollars; and every such quarter eagle shall be of the value of two dollars and fifty cents. And the said gold coins shall be received in all payments, when of full weight, according to their said respective values; and, when of less than full weight, at less values, proportioned to their respective actual weights. ~~(Act of June 28th, 183~~4, Sect. 1.)

Be it further enacted, That all gold coins of the United States, minted anterior to the thirty-first day of July next, shall be receivable in all payments at the rate of ninety-four and eight tenths of a cent per pennyweight. (Sect. 3 of the same act.)

The above standard, which corresponds to 21 carats $2\frac{14}{43}$ grains, or 899.225 thousandths, continued

20 carats = 833 thousandths
21 = 875
22 = 917
23 = 958

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1 dwt of Standard gold is worth 93c
1 ℥ " $18.60
1 lb " 223.25

In an Eagle there is 10 dwts 18 grs.
= ·54 dec of an ounce
In ½ Eagles = 5 dwt 9 grs = ·27
¼ Eagle = 2 dwt 16 grs = ·13

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		oz. dec		lb oz dwt
5.000 $	=	268.75	–	22. 4. 15
2500 $	=	134.38		
1000	=	53.75		
500	=	26.88		
100	=	5.37		
50	=	2.68		

until the act of January, 1837, when it was changed to 900 thousandths. The weights of the gold coins were not, however, altered; and all gold coins made after July 31, 1834, are legal tenders, according to their nominal values.

VII. AGAINST COUNTERFEITING COINS.

Be it enacted, &c., That if any person or persons shall falsely make, forge, or counterfeit, or cause or procure to be falsely made, forged, or counterfeited; or willingly aid or assist in falsely making, forging, or counterfeiting, any coin in resemblance or similitude of the gold or silver coin which has been, or hereafter may be, coined at the Mint of the United States; or in the resemblance or similitude of any foreign gold or silver coin which by law now is, or hereafter may be made, current in the United States; or shall pass, utter, publish, or sell, or attempt to pass, utter, publish, or sell, or bring into the United States from any foreign place, with intent to pass, utter, publish, or sell, as true, any such false, forged, or counterfeited coin, knowing the same to be false, forged, or counterfeited, with intent to defraud any body, politic or corporate, or any other person or persons whatsoever; every person, so offending, shall be deemed guilty of felony, and shall, on conviction thereof, be punished by fine, not exceeding five thousand dollars, and by imprisonment and confinement at hard labour, not exceeding ten years, according to the aggravation of the offence.

And be it further enacted, That if any person or persons shall falsely make, forge, or counterfeit, or cause or procure to be falsely made, forged, or counterfeited, or willingly aid or assist in falsely making, forging, or counterfeiting any coin in the resemblance or similitude of any copper coin which has been, or hereafter may be, coined at the Mint of the United States; or shall pass, utter, publish, or sell; or attempt to pass, utter, publish, or sell; or bring into the United States from any foreign place, with intent to pass, utter, publish, or sell, as true, any such false, forged, or counterfeited coin, with intent to defraud any body, politic or corporate, or any person or persons whatsoever; every person so offending shall be deemed guilty of felony, and shall, on conviction thereof, be punished by fine, not exceeding one thousand dollars, and by imprisonment, and confinement to hard labour, not exceeding three years. (Act of March 3d, 1825, Sect. 20, 21.)

VIII. AGAINST OFFENCES AT THE MINT.

Be it enacted, &c., That if any of the gold or silver coins, which shall be struck or coined at the Mint of the United States, shall be debased, or made worse as to the proportion of fine gold or fine silver therein contained; or shall be of less weight or value than the same ought to be, pursuant to the several acts relative thereto, through the default or connivance of any of the officers or persons who shall be employed at the said Mint, for the purposes of profit or gain, or otherwise, with a fraudulent intent; and if any of the said officers or persons shall embezzle any of the metals which shall, at any time, be committed to their charge for the purpose of being coined, or any of the coins which shall be struck, or coined, at the said Mint, every such officer or person who shall

Table of Relation of Decimals to Grains and Pennyweights

dec.	grains	dec.	pennyweights
.01. =	5	.05 =	1
.02 =	10	10 =	2
.03 =	15	15 =	3
.04 =	20	20 =	4
.05 =	24	25 =	5
		50 =	10
		75 =	15

The fineness being given, the value of Gold per pennyweight

Fineness.	Value	Fineness.	Value
1 =	$\frac{1}{8}$ cents	550 =	$56\frac{2}{3}$
2 =	$\frac{1}{4}$ "	600 =	62
5 =	$\frac{1}{2}$ "	650 =	$67\frac{1}{4}$
10 =	1 "	700 =	$72\frac{1}{3}$
20 =	2 "	750 =	$77\frac{1}{2}$
25 =	$2\frac{1}{2}$ "	800 =	$82\frac{1}{2}$
50 =	5 .	850 =	$87\frac{1}{2}$
100 =	10 .	900 =	93
		950 =	98
		1000 =	103

commit any, or either of the said offences, shall be deemed guilty of felony, and shall be sentenced to imprisonment and hard labour, for a term not less than one year, nor more than ten years; and shall be fined in a sum not exceeding ten thousand dollars. (Act of March 3d, 1825, Sect. 24.)

IX. STANDARD WEIGHTS OF THE MINT.

Be it enacted, &c., That, for the purpose of securing a due conformity in weight of the coins of the United States, to the provisions of the ninth section of the act, passed the second of April, one thousand seven hundred and ninety-two, entitled "An Act establishing a Mint, and regulating the coins of the United States," the brass Troy pound weight procured by the minister of the United States, at London, in the year one thousand eight hundred and twenty-seven, for the use of the Mint, and now in the custody of the Director thereof, shall be the standard Troy pound of the Mint of the United States, conformably to which the coinage thereof shall be regulated.

And be it further enacted, That it shall be the duty of the Director of the Mint to procure, and safely to keep, a series of standard weights, corresponding to the aforesaid Troy pound, consisting of a one pound weight and the requisite sub-divisions and multiples thereof, from the hundredth part of a grain to twenty-five pounds; and that the Troy weights ordinarily employed in the transactions of the Mint, shall be regulated according to the above standards, at least once in every year, under his inspection, and their accuracy tested annually in the presence of the Assay

Commissioners, on the day of the annual assay. (Act of May 19th, 1828, Sect. 2, 3.)

X. ASSAY OF BULLION NOT INTENDED FOR COINAGE.

Be it enacted, &c., That it shall be lawful for the Director of the Mint to receive, and cause to be assayed, bullion not intended for coinage, and to cause certificates to be given of the fineness thereof, by such officer as he shall designate for that purpose, at such rates of charge, to be paid by the owner of said bullion, and under such regulations as the said Director may from time to time establish. (Act of May 19th, 1828, Sect. 7.)

XI. UNEXPENDED APPROPRIATIONS.

Be it enacted, &c., That in regard to any sum which shall have remained unexpended upon any appropriation other than for the payment of interest on the funded debt; for the payment of interest upon, and reimbursement, according to contract, of any loan or loans made on account of the United States; for the purpose of the sinking-fund; or for a purpose, in respect to which a longer duration is specially assigned by law, for more than two years after the expiration of the calendar year in which the act of appropriation shall have been passed, such appropriation shall be deemed to have ceased and been determined: and the sum so unexpended shall be carried to an account, on the books of the Treasury to be denominated, "The Surplus Fund," &c. (Act of March, 3d, 1795, Sect. 16.)

XII. PROVISION FOR THE PURCHASE OF BULLION FOR COINAGE.

Provided, That it may be lawful for the President of the United States to direct transfers of the public money to be made from time to time, to the Mint and Branch Mints of the United States, for supplying metal for coinage. (*Proviso* in Sect. 12 of the law regulating the deposites of public moneys: approved, ~~July~~, 1836.)
23d June

XIII. ACT TO ESTABLISH BRANCHES OF THE MINT OF THE UNITED STATES.

Be it enacted, &c., That Branches of the Mint of the United States shall be established as follows:—One branch at the city of New Orleans for the coinage of gold and silver: one Branch at the town of Charlotte in Mecklenburg county in the state of North Carolina, for the coinage of gold only: and one Branch at or near Dahlonega in Lumpkin county, in the state of Georgia, also for the coinage of gold only. And for the purpose of purchasing sites, erecting suitable buildings, and completing the necessary combinations of machinery for the several Branches aforesaid, the following sums, to be paid out of any money in the Treasury, not otherwise appropriated, shall be and hereby are appropriated: for the Branch at New Orleans, the sum of two hundred thousand dollars; for the Branch at Charlotte, fifty thousand dollars; and for the Branch at Dahlonega, fifty thousand dollars.

SEC. 2. *And be it further enacted*, That so soon as the necessary buildings are erected, for the well conducting the business of each of the said Branches, the following officers shall be appointed upon the nomination of the President, and with the advice and consent of the Senate:—One Superintendent, one Treasurer, one Assayer, one Chief Coiner, one Melter, and one Refiner. And the Superintendent of each Mint shall engage and employ as many clerks, and as many subordinate workmen and servants, as shall be provided for by law: and the salaries of the said officers and clerks shall be as follows:—For the Branch Mint at New Orleans:—to the Superintendent, the sum of two thousand five hundred dollars: to the Treasurer, the sum of two thousand dollars: to the Chief Coiner, the sum of two thousand dollars: to the Assayer, Melter and Refiner, the sum of two thousand dollars each: to two clerks, the sum of twelve hundred dollars each: to the subordinate workmen and servants, not exceeding twenty in number, such wages and allowances as are customary and reasonable, according to their respective stations and occupations. For the Branches at Charlotte and Dahlonega, to the Superintendents, each the sum of two thousand dollars, who shall respectively discharge the duty of Treasurers: to the Chief Coiners, each the sum of one thousand five hundred dollars: to the Assayers, Melters, and Refiners, each the sum of one thousand five hundred dollars: to the clerks, not exceeding one at each Branch, the sum of one thousand dollars: and to the subordinate workmen and servants, not exceeding the number of five at each of the said Branches, such wages and allowances shall be paid as are customary and reasonable, according to their respective stations and occupations. And for the purpose of paying the said salaries, wages, allowances,

and the incidental expenses of the said Branches of the Mint for the year one thousand eight hundred and thirty-five, the following sums, to be paid out of any money in the Treasury not otherwise appropriated:—for the Branch at New Orleans, the sum of thirty-five thousand dollars; for the Branches at Charlotte and Dahlonega, the sum of fifteen thousand dollars each.

Sec. 3. *And be it further enacted*, That the officers and clerks to be appointed under this act, before entering upon the duties thereof, shall take an oath or affirmation, before some judge of the United States, faithfully and diligently to perform the duties thereof; and shall each become bound to the United States of America, with one or more sureties to the satisfaction of the Director of the Mint, and the Secretary of the Treasury, with condition for the faithful and diligent performance of the duties of their offices.

Sec. 4. *And be it further enacted*, That the general business of the said Branches of the Mint of the United States, shall be under the control and regulation of the Director of the Mint at Philadelphia, subject to the approbation of the Secretary of the Treasury; and for that purpose, it shall be the duty of the said Director to prescribe such regulations, and require such returns, periodically, and occasionally, as shall appear to him to be necessary, for the purpose of carrying into effect the intention of this act in establishing the said Branches: also, for discriminating the coins which shall be stamped at each Branch, and at the Mint itself: also, for the purpose of preserving uniformity of weight, form, and fineness in the coins stamped at each place. And for that purpose, to require the transmission and delivery to him at the Mint, from time to time, such parcels of the coinage of each Branch as he shall think proper, to be subjected to such assays and tests as he shall direct.

Sec. 5. *And be it further enacted,* That all the laws, and parts of laws, made for the regulation of the Mint of the United States, and for the government of the officers and persons employed therein, and for the punishment of all offences connected with the Mint or coinage of the United States, shall be, and the same are hereby declared to be, in full force, in relation to each of the Branches of the Mint, by this act established, so far as the same shall be applicable thereto. (Act of March 3d, 1835.)

XIV. AMENDMENT TO THE FOREGOING ACT ESTABLISHING BRANCH MINTS.

Be it enacted, &c. That the officers of the Branch Mint at New Orleans shall be one Superintendent, one Treasurer, one Assayer, one Melter and Refiner, and one Coiner; and that the officers of the Branch Mints at Charlotte and Dahlonega, severally, shall be one Superintendent, who shall also perform the duties of Treasurer; one Assayer, who shall also perform the duties of Melter and Refiner; and one Coiner; and the annual salaries of the said officers shall be as follows: for the Branch at New Orleans, to the Superintendent, two thousand five hundred dollars; to the Treasurer, the Assayer, the Melter and Refiner, and the Coiner, each, two thousand dollars; for the Branches at Charlotte and at Dahlonega, to the Superintendent, two thousand dollars; and to the Assayer and the Coiner, each, fifteen hundred dollars.

Sec. 2. *And be it further enacted,* That so much of the act entitled "An Act to establish Branches of

the Mint of the United States," approved the third day of March, one thousand eight hundred and thirty-five, as is inconsistent with the provisions of this act, be, and the same is hereby, repealed. (Act of 1837.)

Rules to be observed in the Branch Mint at Charlotte N.C. 1 Nov. '37

1. It is understood that the ten hour system is to be observed as far as practicable

2. In cases of sickness arising from employment in the Mint the pay goes on
In other cases the pay stops unless such circumstances should render it proper to suspend the rule.

3. On Saturday the hour of stopping work is 2 o'clock.

4. In all cases of absence without leave pay will be deducted unless sufficient reason is given to the Superintendent.

IN THE SENATE OF THE UNITED STATES,

15th DECEMBER, 1830.

Read, and ordered to be printed, and that 1,000 additional copies be furnished for the use of the Senate.

Mr. Sanford, from the Select Committee appointed to consider the state of the current coins, and to report such amendments of the existing laws concerning coins, as may be deemed expedient, made the following

REPORT:

The coins now in the United States, and the bank notes now circulating as money, are estimated to amount to about one hundred millions of dollars. The coins are estimated to amount to about twenty three millions of dollars; of which sum, it is estimated that about fifteen millions of dollars are held by the banks, and about eight millions of dollars are in circulation among the people. The bank notes in circulation are estimated to amount to about seventy seven millions of dollars. The amount of money in circulation among the people, is accordingly, about eighty five millions of dollars, consisting of about seventy seven millions of bank notes and about eight millions of coins.

The sum of fifteen millions of dollars of coins, is the estimated average of the coins held by the banks, for several years preceding this time. The banks in the principal sea ports, have at this time, an unusual quantity of coins; and the amount of coins now held by those banks, is much greater than the sum which they have generally held.

Of the sum of seventy seven millions of dollars of bank notes in circulation, it is estimated that about one half consists of notes for sums exceeding five dollars, about one fourth of notes for five dollars, and about one fourth of notes for sums less than five dollars. The notes for sums less than five dollars, are chiefly, for one dollar, two dollars and three dollars; and a great portion of them consists of notes for one dollar.

The power to establish banks is claimed and exercised by the government of the United States, and also by each of the States. There are now in the United States, about five hundred incorporated banks; and the number is annually increased.

The public revenue of the United States and of every one of the States, is collected and disbursed almost wholly, in bank notes.

The coins held by the banks and in circulation among the people, are silver. All the coins in common circulation, and most of those held by the banks, are half dollars and the minor silver pieces.

We have no gold coins in circulation.

This country has never determined that either gold or silver should be used as money, in exclusion of the other metal. The constitution of the United States evidently contemplates, in the power conferred upon this government, to coin money, regulate the value thereof and of foreign coins, and the restriction imposed on the States, to make nothing but gold and silver coins a tender in payment of debts, that the money of this country shall be gold and silver. Our system of money established in the year 1792, fully adopts the principle that it is expedient to coin and use both metals as money; and such has always been the opinion of the people of the United States.

The fact that we have no gold coins in use, is not the intended effect of our institutions. It has resulted from too low a valuation of gold in respect to silver, when our system was established, and a progressive rise in the relative value of gold, since that time. By our system, the two metals are coined upon the basis that one pound of gold is equal in value, to fifteen pounds of silver; and all our coinage of the two metals has been executed in conformity to this relative valuation. This proportion was too low a valuation of gold in the year 1792; and it is certainly, much too low a valuation of gold in relation to silver, at this time. Our gold coins being much underrated in respect to silver, have never had any general circulation in the country; they have ceased to be used as money; they are merely merchandize, purchased by a considerable premium over silver; and they are used in manufactures or exported to Europe.

Our public coinage of gold is now, wholly without any public benefit. We prohibit and punish all private coinage of gold; we coin this metal at the mint, upon a principle which does not permit it to circulate, as money; and we pay the expense of this useless coinage. In practice, this coinage affords a facility to the possessor of gold bullion; since it enables him to employ the mint to weigh and assay his bullion, and to divide it into very convenient portions, without expense to himself. When the coins are received from the mint, they are sold for their value as bullion; some of them are used in manufactures, and the greater part are exported. If we will not rectify the legal proportion between the coins of the two metals, we ought to abolish the coinage of gold, save a useless expense, and leave gold to be treated like other metals not coined as money.

Each of the two metals is peculiarly convenient for purposes, to which the other is not well adapted. Silver is divisible into pieces of small weight and small value; and is convenient for payments of moderate amount; but is very inconvenient, when large sums are paid or transported. Gold containing the greatest value in the smallest compass and weight, can not be well used in pieces sufficiently small for very small payments; but is eminently convenient for large payments and long transportation. These different advantages can not be enjoyed, without the use of both metals: neither metal can be conveniently used as a measure of value, in the form of bullion: and when only one of the metals is coined, the great convenience of using the other in the form of coins, is denied.

If both metals are coined, they must, to render them entirely convenient, be arranged into one system of money; and the value which each metal bears in relation to the other, is the basis upon which the connexion of the two species of coins must rest. But these metals though far less variable in value, than other things, are still subject to variations; and the two species of coins will not circulate together, unless their relative value is very nearly adjusted to the relative market value of the two metals. To secure the use of the two species of coins, the relative value of the two metals must be adopted as the relative value of the two species of coins; and for the same purpose, the relative value of the two species of coins must be changed, when any considerable change in the relative value of the two metals takes place. The relative value of gold and silver at any time, may be sufficiently ascertained; the two species of coins may be adjusted to that relative value; and such an adjustment will secure the use of the coins of both metals, so long as the relative market value of the two metals shall continue nearly the same with the legal proportion of the coins. When a legal proportion is established, it is impossible to foresee how long the relative market value of the two metals will continue, without material variation; but experience has shown that a suitable adjustment will in general, secure adequate portions of the two species of coins, during a long period.

Minute variations in the relative value of gold and silver, occur without end; they result from fluctuations in the demand or the supply of the respective metals; they are generally, of short duration; and they are in general, vibrations which compensate each other, and leave the average of relative value, unvaried. Such fluctuations very little disturb the concurrent circulation of the two species of coins; and even greater fluctuations may occur, and still leave a sufficient supply of the coins of each metal in circulation. When a disparity in relative value between the two species of coins and the two metals in bullion, occurs, a premium on the underrated coins follows; and this premium is an inconvenience; but while the premium is small, it may leave an adequate supply of that species of coins. While the coins of either metal may be easily obtained by coins of the other metal, the general utility of the two species of coins is attained; and variations which do not defeat that object, are of little moment. This degree of harmony between the coins of the two metals, is entirely attainable, and is sufficient for practical convenience. Those considerable and durable variations which after a due adjustment of the coins, are sufficient to expel either species of coins from currency, are of slow progress. When they take place, the remedy is, to act again upon the principle which led to preceding adjustments, and to conform the coins to the actual relative value of the two metals.

The necessity of occasional adjustments is a small inconvenience when compared with the great inconvenience of using only one of the metals; and such has been the experience of mankind.

Our money now in use, is bank notes and silver. Bank notes are pressed into every channel of circulation; and though no man is legally bound to receive them, they are generally received. So great is the amount of bank notes in circulation, so widely are these notes diffused through our extensive country, and so much is silver banished from circulation, that the option to demand silver, is not within the reach of the great body of the people. The creditor and especially the poor man who can neither wait for payment nor go to a bank to demand silver, accepts the bank notes which are offered to him, not because he prefers them to silver, but in a multitude of cases, because he is in effect, constrained to accept them or nothing. One of many causes which swell this torrent and impose upon the people a species of necessity to use paper money, is the want of gold coins.

Gold and silver have intrinsic value in all times and all circumstances; and coins of these metals are money, in all the exigencies of men and societies. Credit is a substitute for money; but it is a substitute dependent upon local and temporary opinion and the casualties of human affairs, and is liable to great abuses. The coins should be such, that when credit is substituted for gold and silver, either of these metals may still be used by all who do not choose to give credit: and still more is it necessary when credit is impaired or destroyed, that gold and silver should readily take its place. Whether a country has paper money or not, the system of coins should be the same. All paper money consists in promises to pay coins; and the coins for which promises are issued, should be such as sound principles require, where no paper money exists.

Bank notes are frequently received in preference to silver, when gold coins would be more convenient or desirable than bank notes. In such cases, gold would be used if it could be procured; and it should be attainable. To refuse to coin gold for the sake of paper money, or because paper money occupies a place which gold would fill, would be a mischievous error. A bad state of the coins is a great evil; but when such a state of the coins is continued, for the purpose of promoting the use of paper money, the end is pernicious, and the means are an abuse of power. Our banks have the right to pay their notes in silver; and they ought not also to enjoy the advantage of an entire banishment of gold coins from the United States. There will surely, be sufficient scope for the circulation of bank notes, when the coins which they do not expel from use, shall consist partly of both metals: and if it is the interest of the banks that we should have no gold coins, the public interest of the country is, that we should have coins of gold as well as coins of silver.

If the slow and gradual variations which take place in the values of gold and silver, are an objection to the use of both these metals as money, far greater is the objection to paper money issued in such quantities as must necessarily produce great fluctuations. Strange indeed, must be that policy which can tolerate five hundred different kinds of paper money, and can not tolerate both gold and silver; which can not endure the instability of the precious metals, and can submit to the great derangement of values produced by excessive and fluctuating issues of bank notes.

The power to coin money and regulate its value, resides exclusively, in the government of the United States. Our paper money is issued by a multitude of banks established by different authorities, and under no common control; and when we do not suffer the evil, we are constantly exposed to the danger of excessive issues of bank notes. Where the circulating coins are both gold and silver, paper money is less used, than it is where all the coins are of silver; and the currency of gold coins in our country, will tend to repress this constant tendency to excess of paper money. So far as the use of gold coins in addition to silver, may counteract this excess, the effect will be beneficial. If all our banks were under the control of one government, the use of gold as well as silver in coins, would be a most salutary check upon excessive issues. In the actual state of our paper money, it is much more necessary that this check should exist and operate; and the first step to this object, is the due exercise of the power to coin gold and silver. The coinage of both these metals is not only dictated by the sense of the constitution and the soundest principles of public economy, but is also required by the condition of our paper money: and this measure entrusted solely to this government, is one of its high duties to the country.

Whether therefore, we consider this question upon principles which should prevail in all times and all countries, or in reference to the peculiarities of our own condition, it is expedient that we should coin and use gold as well as silver.

While we have so much paper money, we can not have any great quantity of the precious metals in use, as money; and while this extensive use of paper money shall continue, an adjustment of the relative value of gold and silver, will not bring much gold into circulation. Still, the necessary adjustment should be made. No man can foresee, how far the present course of issuing paper money will proceed, or how long paper money in its present forms and abundance, will be tolerated. Whatever may happen in respect to paper money, the precious metals should always be coined, and a sound system of coins should be in constant operation, to the end that whether paper money shall be used or not, and whether the amount of our coins shall be great or small, a portion of them may consist of gold and another portion of silver.

By a resolution of the Senate, of the twenty ninth day of December 1828, the Secretary of the Treasury was directed to ascertain with as much accuracy as possible, the proportional value of gold and silver in relation to each other; and to state such alterations in the gold coins of the United States, as may he necessary to conform those coins to the silver coins, in true relative value. On the fourth day of May last the Secretary made a report to the Senate. This very able report presents a mass of facts and statements which are highly important; and among the papers annexed to it, is a letter from Mr. Gallatin, which is inestimable, for sound and just views of the use of gold and silver as money.

By our system, the expense of coining both gold and silver, is defrayed by the government; and the coins themselves, are not subjected to any charge. He who brings gold or silver to the mint to be coined, receives in return, the same quantity of pure metal in coins, which he delivers to the mint, in bullion. The proportional value of the two metals in our coins, should therefore, be the relative intrinsic value of pure gold and pure silver.

It has been suggested that it may be expedient to coin our gold in a ratio to silver, of one or two per centum less than the relative market value of gold to silver; but this idea is inadmissible. The end of coining the two metals is, that they may circulate together; that every person who has coins of either silver or gold, may easily exchange them for coins of the other metal; and that the people may enjoy the advantage of using either species of coins, according to convenience or pleasure. To attain this end, the two metals must bear the same relative value in coins, which they bear as bullion. Where gold bullion and silver bullion are wanted, they are supplied in suitable proportions, according to the demand for each metal; and where gold coins and silver coins are adjusted in value, to the relative market value of the two metals, the due portions of the two species of coins, are determined by convenience and utility. A legal proportion different from the relative market value of the two metals, banishes the coins of the underrated metal from circulation, or confines them to partial use, with a premium over the coins of the other metal; and therefore, either defeats the object of a legal proportion, or abridges its benefits. If it is expedient that both metals should be used in coins, both species of coins should circulate freely, and without the embarrassment of purchasing one by a premium upon the other; and neither of them should be more than the other, a subject of traffic. No legal advantage should be given to either metal, in the relative valuation of the two metals in the coins; and our legal proportion should be the true relative value of gold and silver, in the United States.

The relative value of gold and silver is found in the prices which these metals bear, when they purchase each other; and an average of a great number of prices, during a considerable period, is regarded as the relative value of the two metals, for the purpose of adjusting the proportional value of the two species of coins.

Statements of the prices of gold in this country, are annexed to Mr. Ingham's report; and many others have been obtained. A mere average of all the prices which appear in the statements, would not deserve reliance as a true expression of the relative value of the two metals, for the purpose of an adjustment: and all such statements must be examined with great circumspection and attention to many circumstances, in order to deduce from them satisfactory evidence of the relative value of the two metals in the United States.

Our gold coins, the gold coins of other countries, and gold in bullion, are all sold and bought, as bullion. The prices paid for our gold coins, are expressed very simply, by the premiums on the nominal value of those coins. Gold bullion and foreign gold coins fluctuate somewhat more than our own gold coins; but the prices of all them, are in general, nearly the same: and the prices of gold in all its forms, may be considered as expressed by the rates of premium on our gold coins. An examination of these premiums will therefore, sufficiently comprehend the prices of all gold, in this country.

The premiums paid for our gold coins have varied much, at different times: the lowest premium having been one per centum, and the highest, six and three fourths per centum. These are the limits of fluctuation, according to the statements; but it is ascertained that in some few instances, the premium paid has been seven per centum.

Our gold coins are considered to be one half of one per centum defective in weight and standard; and this allowance is made in connexion with the premiums, in the calculations which follow.

Our supply of gold from foreign countries, is constant; and the domestic supply from the Southern States, is now considerable. The demand for gold in this country, is for manufactures and for exportation. A very considerable quantity is used in manufactures; and the demand for gold for this purpose, is very steady; but the quantity used in manufactures is far less than the quantity exported. The chief demand for gold is for exportation; and this demand is sometimes great; and at other times, it entirely ceases. Hence, result great fluctuations in the prices of gold, in this country.

One principal reason of these great fluctuations in the prices of gold, is, that we do not use gold as money. Bullion fluctuates more than coins; but where either of the precious metals is used as money, the demand for coins tends strongly, to give stability to the value of that metal, both in coins and in bullion. If there were a steady internal demand for gold coins as money, in addition to the demands for manufactures and for exportation, there would be far more stability in the prices of gold, in this country.

Another cause of these fluctuations, exists in fluctuations of the medium by which gold is purchased. Our money in use is silver and bank notes; far the greater part is bank notes; and the amount of bank notes in circulation is sometimes greatly increased, and at other times, greatly reduced.

These fluctuations of the amount of circulating money, raise or reduce the prices of gold as they affect all other prices.

The great demand for gold, is for exportation to Europe, and especially, to England; and this demand much more than any other, governs the prices of gold in the United States. When gold is not wanted for exportation to England, all other demand for it is so small, that it falls in price, considerably below the general average of its value; and excepting the ordinary demand for manufactures, little is bought or sold, until the course of commerce again produces a demand for gold, for exportation. The prices of gold are therefore, governed to a great extent, by the current rates of exchange on England; gold rising in price as these rates of exchange rise, and falling as they fall. When exchange on England is low, gold is so little in demand, that it evidently falls much below the general relative value which gold bears to silver, either in this country or in Europe. When the rates of exchange on England are low, the prices of gold follow the prices of bills and not the price of silver: and when the remittances are made partly in bills and partly in gold, the price of gold is still determined by the rates of exchange. When exchange and gold both rise to such rates, that silver is exported to England, the two metals are placed against each other in active use, and gold receives its valuation in respect to silver, from the two demands for manufactures and exportation.

We have thus, different states of prices of gold: one when neither of the precious metals is exported; another when gold is exported and silver is not exported; and another when both the metals are exported.

The relative valuation of the two metals in the coins, should be such that neither species of coins will be exported, in preference to the other. If the two metals are valued in the coins, at such a rate in comparison with each other, that one species of coins is exported while the other remains, the object of an adjustment is not attained. The existing evil for which we seek a remedy, is, that our gold coins being underrated in respect to our silver coins, do not circulate and are exported. The lower prices of our gold when it is used only in manufactures, do not express the relative value of gold and silver, which will render the coins of both metals equally subject to exportation. An average of all the premiums on our gold taken without discrimination, is three and seven eighths per centum: and we know with certainty, that gold is exported to England, in preference to silver and and with more profit, until the prices of gold rise to a much higher premium.

We can not have the use of gold coins while it is more profitable to export them than to export silver: and it is impossible to retain gold coins in the country, unless their legal value in relation to silver, is such that when one metal or the other or both must be exported, there shall be no profit in exporting gold rather than silver.

Our coins of both metals are intended for domestic circulation; and the relative valuation of gold and silver which will insure this object, can not be found either in the prices of gold, which occur when neither of the two metals is exported, or in the prices which prevail when gold is exported and silver is not exported. The relative valuation which will insure the concurrent circulation of the two species of coins, must be found in the prices which the two metals bear, when both are exported: and our average for the purpose of an adjustment, must be drawn from the prices which prevail when both metals are exported, or are in demand for exportation.

The prices of gold exhibited in the statements of current prices, are prices actually paid when there are sales, and estimated rates when there is no sale. These statements do not show the number of sales, or the quantity sold at any time; nor do they discriminate between actual prices and estimated values. If the different sales of gold and the quantities sold at different times, were stated, and if actual prices were distinguished from estimated values, it would appear that when the premium on our gold is high, large quantities of this metal are sold and purchased; that when the premium is low, the quantity bought and sold is small; and that when there is no sale, the prices stated are estimates founded in most cases, upon the lower prices of gold. When these facts are disregarded, and an equation is drawn from all the rates of premium stated for a long period, it produces too low a valuation of gold: and reliance for a just average, must be placed upon those prices for which the greater part of this merchandize is bought and sold, rather than upon those lower prices which are either nominal, or real only when gold is not exported from the United States.

At this time, the premium on our gold coins does not exceed two per centum; and according to this premium, the value of gold in respect to silver, would be 15.375 to 1. Yet the relative value of gold is now unquestionably, much higher than this ratio, both in America and Europe. Exchange on England is now low; the only demand for gold is for manufactures; and the supply much exceeds the demand for this object. This very low premium, resulting from low rates of exchange on England, is for the time, a real price of gold; but it is certainly, not that price which will place the two metals in such relative valuation, that when a demand for exportation shall arrive, either gold or silver may be exported, with equal profit.

Silver is not exported to Europe, until exchange on England rises to about nine and a half per centum of nominal premium: and when exchange on England is at this rate, the premiums on our gold appear to be very seldom less than five per centum, and generally, at higher rates. Though when bills on England are at nine and a half per centum of nominal premium, silver begins to be exported, yet little is then exported; and it appears certain, that silver is not exported equally with gold, until bills on England rise to ten and a half or eleven per centum of nominal premium. When exchange on England is at ten and a half per centum of nominal premium, the premiums on our gold appear to be very seldom less than five and a half per centum, and generally, at higher rates.

An average of the premiums on our gold, of five per centum, and higher rates, not exceeding six and three fourths per centum, is five and seven eighths per centum. But as the premium has seldom risen to six and three fourths per centum, and most of the sales of gold for exportation, have been made for premiums between four and a half and six and a half per centum, the average of the higher premiums may rather be estimated at five and a half per centum.

The table E. subjoined to Mr. Gallatin's letter, is a statement of the rates of exchange on England, and the premiums on our gold coins, for each month of a period of four years and a half, commencing with January 1825, and ending with June 1829. Mr. Gallatin states that the average premium on our gold coins for the whole of that period, has been about five and one sixth per centum on their nominal value; and he estimates the ratio of gold to silver, deduced from this rate of premium, to be 15.82 to 1.

If we select any particular period for an average of premiums, the period stated in the table E. being recent and of considerable length, is very proper for that purpose; but during other considerable periods, the premiums on our gold and the rates of exchange on England, have been much lower than they were from January 1825, to June 1829. Whether we take the premiums of one period or those of another, the relative value of gold and silver which will secure the circulation of both metals in coins, must be found in the premiums which prevail when both silver and gold are exported.

To avoid the inaccuracy which may exist in compiled statements and estimated rates, a great number of prices on actual sales of gold in the city of New York, have been obtained: and many of these sales took place during the period from the first day of January 1825, to the last day of June 1829. An average of all the premiums on our gold paid on these actual sales during that period, is 5.58 per centum. The relative value of gold and silver resulting from this rate of premium, is 15.912 to 1.

When all these facts and circumstances are duly estimated, the conclusion is; that for the purpose of an adjustment which shall place the coins of the two metals in such relation to each other, that both may circulate in the United States, our average must be drawn from the premiums on our gold, higher than about four and a half or four and three fourths per centum; and that the average of this higher class of premiums, is about five and a half per centum. This is the lowest average, which can be deduced from those prices of gold which prevail in this country, when both gold and silver receive their valuations from demand for internal use and demand for exportation to Europe. According to this average price of gold, the relative value of gold and silver in our coins, should be 15.9 to 1.

In France, the relative value of gold to silver, is about 15.82 to 1.

In Great Britain, gold is in value, to silver, about as 15.86 to 1.

The relative value of gold and silver in Spain, has been 16 to 1, during the last fifty or sixty years: and according to recent information, the value of gold in Spain, is now a little higher than this proportion.

In Portugal, the rise of gold and the decline of silver in relative value, were slower and later than in Spain; but the relative value of the two metals in Portugal, is now about 16 to 1; and this proportion appears to have prevailed there, for many years.

The relative value of gold and silver in the American countries south of the United States, is a fact of great importance in this inquiry. In countries which produce one or both of the precious metals in considerable quantities, the supply from the mines fluctuates; these fluctuations are sometimes great; and an extraordinary supply or an unusual failure of either metal, affects the relative value of the two metals. In most of the American countries which contain rich mines of these metals, the values of gold and silver have been during many years, disturbed by war, civil commotions and arbitrary regulations concerning the mines and commerce in these metals. These circumstances render it difficult to obtain exact information concerning the relative value of the two metals in those countries; but though this relative value can not be ascertained with accuracy, it may still be discovered, so far as to leave little uncertainty.

From all the information which can be obtained, it appears that the value of gold in relation to silver, is about 16 to 1, in all the American countries south of the United States. This relative value seems to have prevailed in those parts of America which were formerly Spanish, and especially, in Mexico and Peru, during the last forty or fifty years. In Brazil, gold was for a long time, somewhat less valuable; but during the last ten years, the relative value of the two metals in Brazil, has also been about 16 to 1. In the West Indies, the two metals fluctuate much, in respect to each other; but the ratio of 16 to 1, seems to be the average of relative value.

The relative value of gold and silver in this country, must depend principally, upon their relative value in the countries from which we receive these metals, and their relative value in the countries to which we send them: and their relative value here, must be determined, as much by the prices for which we buy gold and silver, as by the prices for which we sell these metals. When we deduce the relative value of gold and silver in this country, from relative values existing in other countries, we must resort as well to the countries from which these metals are imported, as to the countries to which they are exported; and our conclusion must be drawn from both sources.

In the ordinary course of our foreign commerce, our supply of gold and silver, is received chiefly, from the American countries south of the United States. More than one third of the whole, is now received from Mexico. We export gold and silver to Great Britain, silver to France, some silver to China and the south of Asia, and some gold and silver to other countries. Our exports of silver to China, were formerly great and are now small. During the year ending on the thirtieth day of September 1828, the amount of our exports of silver to India and China, was less than one million seven hundred thousand dollars; and for the year ending on the thirtieth day of September 1829, our exports of silver to the same countries, did not amount to one million three hundred and fifty thousand dollars. Far the greater part of all the gold and silver exported from this country is sent to Europe.

If we take the relative value of gold and silver in the American countries from which we receive these metals, to be 16 to 1, and the average of the relative value of the two metals in all Europe, to be 15.85 to 1, the medium between these valuations is 15.925 to 1: and this ratio coincides very nearly, with the proportion deduced from those actual prices which prevail in this country, when both silver and gold are exported to Europe.

The government of the Netherlands has recently adjusted the relative value of the two metals, in the coins of that country, and has established the proportion between gold and silver, at 15.875 to 1; but the details which may attend this regulation, in respect to charges for coinage or other particulars, are not known.

By the regulations of Spain, the proportional value of gold and silver at the mint, is 16 to 1; and it has been so, since the year 1779. There is, probably, a seignorage on the coinage of these metals at the mint; but the Spanish regulations in this respect, are not accurately known. It is certain that in Spain, the coins of the two metals circulate together; that silver is much more abundant than gold; and that the gold coins usually bear a small premium over the coins of silver.

The regulation concerning the relative value of the two metals in the coins, established by Spain in 1779, was at the same time, extended to all the mints in Spanish America: and since that time, gold and silver have been coined by all the mints under the power of Spain, in conformity to that regulation.

Since the American countries formerly Spanish and now independent, have established their own mints, they have observed the same regulation; and their coinage of the two metals is according to the relative value of 16 to 1.

The proportion between gold and silver in the Portuguese coins of the two metals, is 16 to 1; and has been so, since the year 1820. In Portugal, the coins of both metals circulate together; but much the greater part of the circulating coins, is silver.

In Brazil, the proportional value of gold and silver at the mint, is 16 to 1.

Thus, according to all the information which can be obtained, a pound of gold is now worth sixteen pounds of silver, in all America south of the United States, and in Spain and Portugal: and in all these countries, this relative value has been adopted, as the proportional value of the two metals in the coins. Though in some of these countries, this proportion may be varied in effect, by charges on coinage; and in some of them, the coins deviate from this proportion, in the weight or fineness of the coins of one or the other metal; yet the governments of all these countries have, evidently, considered the relative value of gold and silver to be 16 to 1: and the concurrent circulation of the coins of the two metals in these countries, has well justified that opinion.

So far as the relative value of gold and silver in this country, is uncertain, there are reasons of great weight, which should induce us to assign a high valuation to gold in relation to silver.

The labor of counting or weighing the coins which may be necessary for a remittance to a foreign country, is less in the case of gold than in the case of silver; and where all other circumstances are equal, this reason alone produces the exportation of gold rather than silver.

When the relative value of the two species of coins accords exactly, with the relative market value of the two metals, gold coins are exported in preference to silver coins; the risk and expense of exportation being greater in the case of silver, than in the case of gold.

When gold and silver sent to Europe and especially to England, have arrived, gold is in general, converted into the money of the country or available funds, somewhat sooner than silver; and gold is for this reason, a better remittance.

Gold is rising in value, in relation to silver. During the last three hundred years, gold has with some temporary exceptions, been gradually advancing in value: during the last twenty years, the enhancement of gold in respect to silver, has been quite as great as it had ever before been, during any equal period: and gold still continues to rise. The immense power of machinery which has been brought into use in our own time, is fully applicable and is now applied to mines of silver; and the quantity of silver extracted from the earth, has from this cause, been already greatly increased. The quantity of gold obtained from the earth, has not been much increased by any recent improvement of art. The present progress of change certainly is, to raise gold and depreciate silver, in respect to each other; and it is highly probable that gold will continue to rise and silver to fall, in the future course of their relative value.

If our gold coins should circulate to any considerable extent, the demand for gold for coinage, would in some degree enhance the value of that metal in relation to silver, in this country.

Gold is more than silver, banished from use by paper money: and our gold coins in order to circulate, must be able to contend not only with the demand for gold to be sent abroad, but also with the expelling influence of paper money at home.

If we should underrate our gold coins, they will have no general circulation. They will be used in manufactures, or will flow through the established channels of commerce as they now flow, almost directly from the mint in Philadelphia, to Europe. If we should slightly overrate gold, we shall secure the use of gold coins; and we may lose some silver; but the loss of our silver coins even then, would not follow to an inconvenient extent. Almost all our silver coins are half dollars and the minor parts of the dollar. These coins are indispensable in their proper sphere of circulation: their place cannot be filled either by gold or bank notes; and these coins are not often exported. We have a steady supply of silver in bullion; and the mint is now able to coin any necessary or desirable quantity of either or both of the precious metals. An adjustment of the relative value of the two species of coins with as much accuracy as may be practicable, must bring some gold coins into circulation; and the gold brought into currency may in some degree displace the silver coins; but it will in a much greater degree, take the place of bank notes.

The general course of our exchanges with Europe, is against us; and when remittances can not be advantageously made by bills, gold is sent to Europe and especially to Great Britain, so long as gold is not evidently too dear in this country, in comparison with silver. For this purpose, gold, other circumstances being equal, is much preferred to silver; and gold rises to its highest value in relation to silver, before silver is exported. This established current of commerce in which gold is a customary and favorite remittance, tends to maintain this metal at a high value, in relation to silver. Still, this current is not constant; and when gold is not in demand for exportation, its price in silver, falls. But in order that both gold and silver should circulate as money, it is necessary that demands for exportation should fall upon both metals; that when a demand for exportation occurs, it should in general, be as profitable to export one of them as the other; and the relative valuation which will insure this object, is that which exists when both metals are or may be exported, with equal profit.

These considerations are submitted, not to recommend any deviation whatever from the true relative value of the two metals in this country, so far as that value is an ascertained fact; but to show, that so far as the relative value of gold and silver is uncertain, we may safely assign a high valuation to gold, within the limits of that uncertainty.

The ratio of 16 to 1, is recommended by some considerations which deserve attention. Though Mr. Ingham proposes a lower valuation of gold, he is of opinion that the ratio of 16 to 1 is necessary to render gold and silver equally attainable in the United States. Mr. White is also of opinion that no valuation of gold less in respect to silver, than 16 to 1, would effectually retain our gold coins in use. Spain, Portugal, and all the American countries which have mints, excepting these United States, have established the proportion of 16 to 1, as the basis of their coinage; and if we should adopt the same proportion, one uniform rule would prevail in all the independent countries of America. Much more of the two metals is now coined upon the basis that gold is in value to silver, as 16 to 1, than according to any other proportion. If it is expedient to conform our ratio to the existing proportion of any other country, it must be expedient to adopt that proportion which prevails most widely; and the ratio of 16 to 1, is now far the most extensive example. A rule so extensive is entitled to respect; but the practical operation of the rule is much more instructive; since it shows that this relative valuation of the two metals secures their concurrent circulation in coins, in a very large part of the world.

But our adjustment must be founded on the relative value of gold and silver in our own country; and the ratio of 16 to 1, is a valuation of gold somewhat too high, in the United States.

Upon all the facts before us, the ratio of 15.9 to 1, appears the most eligible. This proportion assigns to gold the average of value which gold bears to silver, when both metals are in demand, for exportation: and it seems more likely than any other ratio, to attain and reconcile the objects of a proportional valuation. It is accordingly recommended, as the relative valuation most proper to be established, in our coins of the two metals.

Various other ratios have been suggested; but any proportion by which gold shall be estimated less in respect to silver, than 15.9 to 1, will it is believed, be altogether insufficient to insure the circulation of gold coins, in this country.

Still, it will be better to adopt any of the lower valuations of gold which have been proposed, than to continue our coinage of this metal, according to the existing legal proportion.

The relative value of gold and silver can never be stated, with infallible accuracy; but the entire certainty which is unattainable, is not necessary for the purpose of establishing a proportional value between the coins of the two metals. A near approach to the relative market value of the two metals is sufficient for this practical object. When the relative value of gold and silver in any country, is examined with the greatest care, different results are obtained by different persons; and no adjustment can ever be made, without encountering this apparent difficulty. In our own case, the difficulty of ascertaining the true proportion, is increased by great fluctuations in the prices of gold; and it was to be expected, that various opinions concerning the relative value of the two metals in this country, should appear. The variety of opinions and propositions respecting the ratio proper to be established in our coins, should not deter us from an amendment of the existing proportion. The difficulty of ascertaining the true relation of value between gold and silver in this country, which now exists, will continue to exist, until we shall use both gold and silver as money: and if a new adjustment should not be entirely correct, it will by its operation, at least, lay a foundation for a more accurate valuation. The opinions which have been expressed by others, the opinions now submitted, and the facts and reasons by which all the different opinions are supported, are now before the Senate; and from these materials, the proportion which shall be deemed most eligible, may be selected.

A bill is submitted, which leaving the silver coins unaltered, proposes that our gold coins shall contain the quantities of metal, which result from the relative valuation of 15.9 to 1. The weight of an eagle according to this relative valuation, will be $233\frac{26}{53}$ grains of pure gold, and $254\frac{38}{53}$ grains of standard gold: and a table is subjoined to this report, by which the weights of an eagle resulting from various other proportions, are exhibited.

A TABLE stating different relative valuations of gold and silver, and showing the quantity of pure gold, and also of standard gold, requisite in an Eagle, to conform the Eagle to each relative valuation; the silver coins of the United States remaining as they are now established by law.

Estimates of the relative value of equal quantities of gold and silver.			GRAINS OF GOLD IN AN EAGLE.	
			Pure.	Standard.
	Gold to	*Silver.*		
1	16	to 1.	$232\frac{1}{32}$	$253\frac{1}{8}$
2	15.95	to 1.	$232\frac{242}{319}$	$253\frac{293}{319}$
3	15.9	to 1.	$233\frac{26}{53}$	$254\frac{38}{53}$
4	15.875	to 1.	$233\frac{109}{127}$	$255\frac{15}{127}$
5	15.85	to 1.	$234\frac{72}{317}$	$255\frac{165}{317}$
6	15.825	to 1.	$234\frac{126}{211}$	$255\frac{195}{211}$
7	15.8	to 1.	$234\frac{153}{158}$	$256\frac{26}{79}$
8	15.775	to 1.	$235\frac{215}{631}$	$256\frac{464}{631}$
9	15.75	to 1.	$235\frac{5}{7}$	$257\frac{1}{7}$
10	15.725	to 1.	$236\frac{56}{629}$	$257\frac{347}{629}$
11	15.7	to 1.	$236\frac{73}{157}$	$257\frac{51}{157}$
12	15.675	to 1.	$236\frac{176}{209}$	$258\frac{78}{209}$
13	15.65	to 1.	$237\frac{69}{313}$	$258\frac{246}{313}$
14	15.625	to 1.	$237\frac{3}{5}$	$259\frac{1}{5}$
15	15.6069	to 1.	$237\frac{15183}{17341}$	$259\frac{8681}{17341}$
16	15	to 1.	$247\frac{1}{2}$	270

BRANCHES OF THE MINT.

LETTER

FROM

THE SECRETARY OF THE TREASURY,

Transmitting to the Chairman of the Committee of Ways and Means a communication from the Director of the Mint, in relation to the establishment of Branches of that institution.

January 23, 1835.
Read, and laid upon the table.

Treasury Department,
January 17, 1835.

Sir: Immediately on the receipt of your several communications, dated the 10th, 12th, and 23d ultimo, copies of the resolutions of the House of Representatives, enclosed in those communications, were transmitted to the Director of the Mint, with a request that he would furnish the department with his views, and such information as would enable me to comply with the wishes of the committee. A report has this day been received from that officer, which is herewith submitted.

Although, in some of the details, and on some of the topics introduced, incidentally, in connexion with the subject of the establishment of branches of the mint, the department does not fully coincide with Mr. Moore, yet, on the principal subject of inquiry, the difference is so slight, that it is not deemed necessary, in order to meet the requests of the committee, to offer any suggestions beyond what the science and research of the Director of the Mint have enabled him to present.

I remain, very respectfully,
Your obedient servant,
LEVI WOODBURY,
Secretary of the Treasury.

The Hon. Jas. K. Polk,
Chairman Comm. Ways and Means, H. R.

Mint of the United States,
Philadelphia, *January* 15, 1835.

Sir: Conformably to your request, accompanying a communication of the resolutions of the House of Representatives, relative to the establish-

[Gales & Seaton, print.]

ment of branches of the mint, I have now the honor to submit the remarks which a careful consideration of the subject has suggested in regard to the measure contemplated by those resolutions.

The mint was established, as declared in the act of Congress of 1792, under which it originated, for the purpose of a national coinage. In thus exercising the exclusive power of coining money, confided by the constitution to the General Government, no conception appears to have been entertained of rendering it productive as a source of revenue, nor even that the expenses of the establishment should be sustained by a charge on its operations. The benefits of a circulating medium offering a measure of value subject to no fluctuation but that slow and imperceptible one from which even the precious metals are not exempt, appears to have been regarded as ranking the mint establishment among public institutions to be sustained from the common Treasury for the general good.

Conformably to these views, very cautious provisions were devised for securing the requisite conformity in the fineness and weight of the coins to the standard declared by law, and supplies of bullion were invited to the mint by very liberal conditions offered to depositors. Coinage was subjected to no charge or loss except the delay incident to the routine of the mint, and it was provided in the act, that, when convenient to the public Treasury, prompt payment of the value of deposites, if desired by the party, should be made at a charge of half per cent. as an equivalent for the advance, in anticipation of coinage. These provisions remain in full force to the present day, with only a slight variation in regard to the conditions relating to prompt payment, which practically affects the question in a degree scarcely sensible. Even the waste, unavoidable in the various manipulations of the mint, has at all times been sustained by the United States, the depositor receiving in standard coin all the pure gold or pure silver delivered by him at the mint.

On another occasion, the considerations have been presented, which seem to recommend an adherence to the principle of free coinage, making, at the utmost, only the charge of half per cent., and that not for coinage, but for payment in advance. It may be proper to remark here, in regard to this particular, that, at an early period of the mint, its unproductiveness, compared with the expense of sustaining it, became a subject of comment, and a proposition for abolishing the institution was at one time entertained in Congress. The force of public sentiment appears, however, to have sustained it under these inauspicious circumstances, and even the principle of free coinage remained unchanged. This point is not intended to be pressed at the present moment; that which relates to the constancy of the national coins to their prescribed fineness and weight, is, however, of far higher concern, and claims proportionate attention. If, in regard to these, the stamp of the mint shall cease to give a perfect assurance, the design of a national coinage is essentially defeated.

This vital point is secured under the existing laws, by provisions, which subject the officers implicated in any intentional violation of their duty in this respect, to severe penalties, and visit in an exemplary manner even casual deviations from the legal standard, if exceeding a very restricted limit.

By the Constitution Congress
has the power
'To coin money, regulate the
Value thereof, and of foreign
Coin, and fix the Standard of
weights and measures.'

8 Sec. 5.

To determine whether the coins issued from the mint have been conformable to the requisitions of the law, it is prescribed that from every delivery of coins a few pieces shall be reserved, to be submitted annually to a special examination, in presence of commissioners designated in the act for that purpose. The records of this commission prove the value of this ordeal, and the precision attainable in coinage under the regulations prevailing on this subject.

It is, indeed, true, and recognised by the provisions alluded to, that absolute accuracy in every single instance is not attainable. The intendment of the law, and the regulations and practice under it, aim at perfect accuracy; and from the average of the annual assays made before the commissioners, the inference is authorized, that, after the experience of the first few years, the coinage of the whole subsequent period, if it could be at once examined as issued from the mint, would present an average not deviating in any appreciable degree from the exact requirements of the law.

In regard to gold, experiments on this point, on a very extended scale, have occurred under the new ratio of gold to silver. Large amounts of the gold coins of the United States of the former standard, which, having been in the vaults of the various banks, had suffered no waste from attrition, have been presented at the mint for recoinage, and in every instance their conformity, both in weight and fineness, to their proper standard, has been found almost perfectly exact. In one instance of a single deposite of nearly half a million of dollars, no sensible deviation from the appropriate weight and fineness could be detected.

In contemplating the above procedure, and its importance to the uniformity and precision of our metallic currency, the first impression suggested by the proposition to establish branches of the mint is associated with a feeling of anxiety in regard to its influence on this delicate feature in the system of our national coinage. It will, however, it is to be presumed, be regarded as indispensable, that the system shall embrace such an organization as may assure to the public an entire concert in regard to this vital concern, so that a coin emitted from any branch of the establishment shall be truly a coin of the United States.

The value of a proper organization in this respect may be usefully illustrated by referring to an example of the evils which result from the want of it, and of its efficiency for the object in view where it prevails.

The character of the Spanish dollar, a coin familiar throughout the world, has long been so well established, that an actual assay thereof had ceased to be regarded as necessary when offered at the mint. Those coins were issued at Madrid, and other cities of Spain, and at various mints dispersed through the Spanish dominions in America. By what precise system of responsibility their constancy to a given standard was formerly secured, the means have not been at hand to ascertain. The effects, however, of the absence now of a proper relation to some central control, are signally manifested in the various issues of those coins, under the authority of the new States of Spanish America. During some years after the royal authority had ceased in those countries, the deviation of their coinage from the Spanish standard was not important. The real standard was evidently aimed at, and on an average maintained. But, within the last three or four years, very sensible irregularities are becoming apparent, with an evident tendency to deviate more frequently below than above their former standard. The coinage of the city of Mexico adheres still, on an average, very nearly to the fineness of the Spanish dollar, with more irregularity, however, than formerly, in emissions of the same date, while the provincial mints of the Mexican States exhibit deviations exceeding two per cent., and on an average within the last two years their issues are nearly half per cent. inferior to their appropriate value. The silver coins of Peru, Central America, and Chili, maintain their value well, and even incline, according to recent assays, to exceed that of former years; while the dollar of La Plata, of recent coinage, vibrates between 94 and 97 cents, and the dollar of Colombia, according to the average of the specimens exhibited at the mint, scarcely exceeds 75 cents in intrinsic value. The gold coins of the Spanish American States generally have also declined below the proper standard nearly the half of one per cent.

In France, where the system of branch mints prevails, we have an example of a different aspect. Before the revolution, it appears that there were about thirty mints in France. By the latest authority to which access has been had, the number appears at present not to exceed ten. The coinage of the several mints is distinguished by a letter of the alphabet assigned to each: that of Paris bearing the letter A. The coins of France are very nearly uniform in fineness and in average weight. No difference has been noted here in the issues from the different mints. The method of securing this uniformity is given in the Encyclopedie Methodique, and, in few words, consists in a relation established with a central commission associated with the mint of Paris; to which place reserved pieces of coin are forwarded periodically for examination.

The special regulations by which the proper relation to the central mint might be maintained here, would of course be carefully digested in any bill which the committee might report, if the establishment of branch mints should meet their approbation. It is not supposed to be in place to advert more particularly to this topic now.

Assuming, therefore, that an entire uniformity in the issues of the whole mint establishment will be secured by adequate provisions, the question submitted would seem to be resolved into one of expediency, in regard to the extra expenditure which the proposed system might involve, compared with the additional benefits to be derived from it.

In pursuing this aspect of the inquiry, it seems necessary to offer a conjecture as to the amount of coinage which might be estimated on from the present mint alone, in a given series of years, with the annual expense accruing; and also as to the additional production from the mint, by diffusing the coining power in the manner proposed, with the additional expenditure incident to this arrangement.

The amount coined in the past year has been about three and a half millions of dollars in silver. There is no indication that the amount of silver offered for coinage within the present year will exceed four and a half millions. The coinage of gold within the last five months of the past year would indicate, considering this fact alone, a supply for coinage within the present year, of about eight and a half millions. That this sum in gold will be actually offered for coinage within the year, appears very questionable. If, however, the amount above mentioned, both of gold and silver, be regularly supplied, the whole, it may be cursorily stated here, can be coined, within this period, by the existing establishment, with the power designed for the present year.

In regard to silver, it appears, from documentary statements, that it exists in very large abundance in the United States, in the form of foreign coins recently introduced. These are, however, with exceptions of no moment, a legal tender. The charge of their transportation to and from the mint restrains, moreover, very sensibly, the amount offered for coinage from quarters a little remote, and the trivial gain to be derived, now, from the coinage of that class of the dollars of Spanish America which are most abundant, is but little regarded in countervailing this expense.

With respect to gold, it is to be remarked, that, of the coinage of the last five months of the year, from which the abovenamed amount of eight and a half millions has been deduced, more than one million consisted of our own coins of the former standard, which reduces the proportion received from sources hereafter to be relied on to about two and a half millions, and the proportional amount for the year to about six millions.

That the whole coinage of the present year, therefore, will amount only to little more than ten millions, of which about four and a half millions will consist of silver, and nearly six millions in gold, seems highly probable, though in various ways the calculation is liable to error, even as regards the current year. It is with still less assurance that the calculation can be carried forward to a series of years. Peculiar circumstances have directed, during the past season, an unexampled supply of the precious metals to the United States, and the existing rate of our foreign exchange tends to retain them for the present. The whole aspect of our commercial relations favors, too, an expectation that this condition of things will not soon be so far changed as to create an export thereof beyond the current receipts, though their actual accumulation may be greatly diminished and occasionally suspended. For the purpose of comparing the present with the proposed system, therefore, it may be assumed that, for the period of ten years, the amount of ten millions in gold and silver will be annually coined.

It is to be observed, that the amount of coinage estimated on as above for the period named, may be constituted of very different proportions of gold and silver, from that supposed probable during the present year. The accumulation of silver in the United States within the last year, that is, the excess of the imports above the exports, it appears from the tables lately furnished by the department, has been nearly fourfold greater than the accumulation of gold; and it is worthy of observation, as tending to a conclusion of no trivial interest, that the proportion of silver to gold is nearly three to one during the period following the 30th September.

The act of Congress, changing the ratio of gold to silver, passed on the 28th June, from which date up to the latest period of December, of which the returns are before the public, the interval has been sufficient to have evinced, to a very considerable extent, its influence on the introduction of gold into the United States, and the proportional introduction of gold and silver. The great disproportion, under these circumstances, not only between the importation of gold and silver, but also between that of gold in the form of bullion and in coins, is entitled to special notice; the latter being threefold greater than the former. That part of the amount consisting in gold coins, it is to be observed, also, must have come chiefly from Europe, it being obvious that the whole class of doubloons, which would be the principal form of gold coins derived from other quarters, possess a value in commerce by tale, which places them beyond the reach of our ratio of gold to silver, or that of any of the nations of Europe. In conformity with the result here alluded to, is the fact exhibited in the late annual report of the mint, that the whole amount of gold received for coinage within the past year from Mexico, South America, and the West Indies, was only $225,000, which forms a very inconsiderable item of the year's coinage, though exceeding by about $140,000 the amount for the preceding year.

The inferior proportion of gold, compared with that of silver, derived by importation from what may be called original sources, is further exemplified in the amount imported into New Orleans, which it appears amounted, between the 30th September and 13th December, to only $260 in gold, while the import in silver exceeded $1,000,000. The importation into New Orleans for the year ending 30th September was in gold about $83,000, and in silver about $5,600,000. The new ratio of gold to silver having, however, been actually established during only two months of that period, the indication is less instructive than that suggested by the importation since September 30th.

On the whole, the conjecture is strongly suggested by the above circumstances, and by the disproportionate quantity of gold to silver produced from the foreign mines, that even the reduced amount assumed as the proportion of gold in the estimated coinage of the current year, viz. $6,000,000, may not be realized in the coinage of the following years; and that if, during the series in contemplation of ten years, the average coinage shall amount to $10,000,000 yearly, the proportion of gold to silver will probably be reversed, so that, of the average annual issues during a considerable portion of that period, about six millions may consist of silver, and four of gold. This estimate of the proportion of gold will also probably be too great, unless about two millions of the average annual amount shall be derived from the gold region of the United States; leaving two millions annually to result from the accumulation of gold imported from abroad, which may be regarded as at least one-fourth of the annual productions of gold from the mines of Europe and America, exclusive of the United States, within the same period. If, from the gold region of the United States, the amount should exceed, on an average, for the whole period, two millions annually, which is highly probable, the proportion will be to that extent changed, and the aggregate so much increased, without, however, disturbing the conclusion to which the calculation tends, as far as the question of branch mints is involved; the expediency of which derives much of its force, in regard to the positions on the seaboard at least, from the tendency of the importation of the precious metals to consist much more largely of silver than of gold.

It is acknowledged that these calculations are exceedingly liable to error; liable, perhaps, also to the surmise that they are adopted with less hesitation, as harmonizing with impressions previously entertained and expressed on a former occasion, that, in order to metalize our currency

to the extent which seems desirable, and to effect this without lessening the volume of the circulating medium, it is necessary that silver should be relied on to perform an important share in the procedure. I am not insensible that opinions adverse to this are entertained and supported by authorities entitled to the highest respect; my own views, however, which you have requested, would be useless in the present inquiry, if not distinctly presented.

Supposing, then, an annual coinage of ten millions for the next ten years, of which six millions shall be silver; and dismissing, at present, the suggestion, not unlikely to arise, that, whatever assignable amount of bullion may be reasonably calculated on to be offered for coinage at a single position, a larger amount might result from a diffusion of the coining power, it will be useful to compare the expenditure at a single point with that under the proposed system of branches.

It has before been stated that four and a half millions of silver and eight and a half of gold could be coined at the present mint with the power contemplated for the current year. It is proper to add that, if the amount of silver were six millions, and that of gold four millions, the coinage would be effected within the same period by the employment of about the same force, and the deliveries of coins restricted within the limits of from thirty to sixty days, if the bullion were regularly supplied.

The annual expense at the present mint on a coinage of the above amount, and consisting of the proportion of gold and silver above assumed, could not be justly estimated at less than eighty thousand dollars, including wastage. If it be now supposed that two branches of the mint be established, viz. at New Orleans and New York, adapted to the coinage of both gold and silver, and the latter chiefly, and one branch in the gold region of the United States, appropriated for the special coinage of gold, the best estimate I have been able to make, after careful consideration, and conferring with the officers of the mint most familiar with the subject, is, that, for the aggregate coinage above contemplated, the expenditure at the present mint, and the two branches first alluded to, would be thirty-five thousand dollars each, and at the branch exclusively appropriated for gold coinage, fifteen thousand dollars. A conjecture may be offered also, which would probably be a near approximation to the truth, that, if the average amount of coinage for the period in question should be ten millions annually, the aggregate at the end of the period would be nearly the same at each of those four positions.

The above estimate exhibits an increase of annual expenditure under the branch system, of forty thousand dollars.

Without presenting any calculation founded on the basis of a different amount of coinage, it is proper to observe that several have been made, but with results as to the amount of extra expenditure too nearly assimilated to the above to require specific detail, the difference being without interest on a question of this moment. It appears, therefore, that for any assignable amount of coinage which the present establishment is competent to, if the system of branches be adopted, and embrace the three positions referred to, the annual expenditure would be increased by about the above sum.

The foregoing estimate of expenditure proceeds on the supposition of a coinage free of charge, provided the depositor shall choose to wait the delay of the mint, according to the liberal provisions of the act of 1792. It is, however, to be acknowledged that the arguments in favor of this principle would be much weakened if a distribution of the coining power be resorted to; the easier access to the mint, resulting from this arrangement, would, in respect to a large portion of the community, be more than an equivalent for a moderate charge at the mint.

It is to be observed that the absolute expense of the mint establishment is subject to a deduction to the amount of the gain on the copper coinage, which may be estimated, for the period named, at ten thousand dollars yearly; leaving the effective expenditure, under the present establishment, seventy thousand dollars for the amount referred to, and including branches, one hundred and ten thousand dollars. Copper is furnished for coinage by the United States, and the coins are forwarded to all parts of the Union, within the range of ordinary means of transportation, at the public expense and risk; and hence it would seem questionable whether the diffusion of the coining power would increase to any important extent the amount distributed in these coins.

Thus far the assumption has been followed, that the amount of gold and silver coined under the present system and that of branches would be the same; it seems, however, very manifest that the aggregate amount would be greater under the latter. The excess would, in an especial manner, apply to the coinage of silver, but in a sensible degree also, it is believed, to that of gold. It may indeed be reasonably doubted whether the average annual amount assumed as the basis of the foregoing estimate would be offered for coinage at any one point of the United States during the next ten years. The probability, however, is strong that, under the system of branches, the whole amount of coinage for the period in view would exceed the estimate.

That the effect of the establishment of a branch of the mint at New Orleans would be very sensibly felt in increasing the aggregate of coinage, especially in silver, may be readily imagined from referring to the tables before mentioned, of the imports and exports of coins and bullion, which show that a very large proportion of the whole accumulation of the precious metals in the United States, within the period they embrace, has been received through that port; while the expenses necessarily accruing on an intercourse with the mint, from that quarter, forbid the expectation that any considerable deposite of bullion, in any form which can otherwise be rendered available, will be derived from thence. The freight and insurance on specie, from New Orleans to Philadelphia, may be estimated at from one to one and a quarter per cent., and the same on the return of the coins, thus making from two to two and a half per cent. The delay incident to the double transportation alone would be equivalent probably to three-quarters of one per cent., so that the whole effective charge may be about three per cent.

The sum of the impediments to an intercourse with the present mint, pertaining to the gold region of the South, arising partly from distance, and still more perhaps from the indirectness of the channels of access, may be estimated at about the same per centage as in the case of New Orleans.

The inconvenience experienced by New York is of a much less onerous character. The charge of freight, including the return of the coins,

does not, it is believed, exceed the tenth of one per cent.; the time required for the transportation is reduced to a few hours, not generally exceeding eight; insurance, it is understood, is rarely resorted to. The consideration of risk, however, is not to be wholly left out of view in such an estimate, but may perhaps reasonably be valued, together with the transportation and incidentals, not easily enumerated, at one-third of one per cent. as the measure of the difference between New York and Philadelphia in regard to the facilities of the mint. This seems to be the full measure assignable in terms, but practically it is presumed that more copious deposites would be made for coinage even under a charge of half per cent. at a branch in New York, than would be forwarded from thence to the present mint, subject to the incidents, of whatever character, pertaining to the double transportation to and from Philadelphia.

Our experience strongly indicates the effect of distance to be disproportioned to the actual charge for transportation in restraining deposites from coming to the mint. The delay of coinage, it is believed, exerts, in this respect, less influence than has been supposed. It has been practicable, at all times, within the last ten years, to commute this for prompt payment at half per cent., mint certificates having uniformly, within that period, been readily cashed in this city at that deduction, generally by some of the city banks, and invariably by the Bank of the United States.

In estimating the expenditure required to erect suitable structures, and complete the necessary combinations of machinery for the several branches contemplated in the resolutions, no safer basis suggests itself in regard to those positions, severally, where the coinage of gold and silver, and more of the latter than the former, is to be provided for, than to take the example of the present mint, for the erection of which, including the site and the machinery, the aggregate sum of $198,500 was appropriated; say, in round numbers, $200,000. In regard to an establishment appropriate for the coinage of gold alone, the sum of $50,000, it is presumed, would be competent to its completion."

In the determination of the positions to be occupied, in the event of the principle of branches being adopted, no question, it is presumed, will arise as to the force of the considerations which indicate New Orleans as the first. If the establishment of another branch on the seaboard be approved, the selection of New York would proceed less, it is presumed, on an estimate of the existing impediments to her intercourse with the present mint, than on a perception of the value of that position to the policy of enlarging our yearly coinage, and to a prompt and wide diffusion of the national coins. The facilities of New York as a receiving port, and not less as a centre of extended distribution, render it probable that, next to New Orleans, a branch of the mint in that city would contribute the most efficient aid in accomplishing the purposes of the mint establishment. After deducting from the amount of imports of the precious metals at New York, as exhibited in the tables, that proportion, it is presumed a very large one, due to the capitalists of Philadelphia, a residue will remain, proper to that city, transcending by far the amount imported at any other point, New Orleans excepted.

In regard to the gold district of the Southern States, a proposition has, on several occasions, been presented before Congress for the establishment of assay offices in various sections of that region. To some extent

OPERATIONS OF THE MINT—1835.

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES,

TRANSMITTING

A Report of the Operations of the Mint for the year 1835.

January 21, 1836.
Referred to the Committee of Ways and Means.

Washington, *January* 20, 1836.

Sir: I herewith transmit to the House of Representatives a report from the Director of the Mint, exhibiting the operations of that institution during the year 1835.

The report contains also some very useful suggestions as to certain changes in the laws connected with our coinage, and with that establishment, which are recommended to your early and careful attention.

Beside some remarks in it on the progress made in the erection of branch mints, and procuring machinery therefor, I enclose a report from the Secretary of the Treasury, submitting more detailed statements as to the new buildings from each of the agents appointed to superintend their erection.

ANDREW JACKSON.

Hon. James K. Polk,
Speaker of the House of Representatives.

Mint of the United States,
Philadelphia, January 1, 1836.

Sir: In compliance with the regulations of the Government, I have now the honor of submitting to you a report of the general transactions of the Mint, during the year which has just closed.

The coinage executed during that period has amounted to $5,668,667, comprising $2,186,175 in gold coins, $3,443,003 in silver coins, and $39,489 in copper coins, and composed of 15,996,342 pieces of coin. The details are presented in schedule A.

The deposites of gold within the year have amounted, in round numbers,

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to $1,845,000, of which $698,000 was from bullion derived from the gold mines in the United States. (Schedules B and C.)

The amount of gold bullion in our vaults, at the end of the year, is $77,880, all of which has been deposited since the 30th of November. The amount of silver bullion in our vaults is $780,600, all of which has been deposited since the 31st of October.

The amount of gold coinage is less than that of 1834 by $1,768,095. This difference has arisen, in part, from the recoinage of American gold of the former ratio, which amounted, in 1834, to $1,067,000, and in 1835, to only $160,000.

The silver and the copper coinages are greater than in any former year, and the whole number of pieces struck exceeds that in any former year by more than four millions.

In consequence of an unusual demand for small silver coins, the amount of this coinage, for the last year year, has been so great as nearly to equal the whole of that for the four years preceding.

Measures have been taken recently, and are now in progress, for introducing improvements in the processes and machinery of the Mint, by which it is believed that the efficiency of the establishment may be much increased. Heretofore the milling and coining have been done exclusively by human labor. New machines are nearly completed by which these operations will be executed with steam power. Changes are about to be made in the melting and refining department, by which the processes will be performed upon a greatly enlarged scale, and by improved methods. The humid assay for silver has been successfully introduced, and new arrangements for the assay by fire are about to be commenced.

I am confident that, when the intended changes shall be completed, the capabilities of the Mint will be doubled, and the delay in the coinage, which is now a subject of just complaint, may be proportionally reduced, It may, indeed, be entirely removed, by the adoption of a measure to which I beg leave to ask your attention. In the 14th section of the act of April 2, 1792, for the organization of the Mint, it is made the duty of the Secretary of the Treasury to furnish the Mint, from time to time, with sums of money for the purpose of making payments promptly to persons bringing bullion. Such a provision was calculated to be of great benefit. By placing a supply of bullion in our hands, it would enable us to go forward regularly with the coinage, without being, as at present, sometimes interrupted for want of deposites, and sometimes inconveniently hurried from their excess. The Mint might then have a supply of coins in advance, which, under the present practice, can never be the case; and depositors might receive the returns for their bullion, as soon as its value could be ascertained. Unfortunately, however, the law was rendered inefficient, in consequence of the advance to the depositor being charged with a discount of one-half per cent. which subjected him to a loss greater than that which would be occasioned by the average delay. I would respectfully suggest, therefore, the propriety of so changing the law, as to dispense hereafter with the charge upon the advance. The effect, as regards the Treasury, would be simply to make the national Mint the depository of a part of the public funds.

In entering upon my office, I felt it to be one of my first duties to endeavor to introduce such a change in the coinage as might make it a more creditable specimen of taste and art. In accomplishing this purpose, I have received the aid of some of our most distinguished artists, and one of the engravers of the Mint, is now engaged in preparing a die, of the dollar size, for "the impression emblematic of liberty." In the course of the present year, I hope that our coinage will be placed upon an equality with the best now executed in Europe.

This occasion is perhaps a suitable one for urging the propriety of a change in our standards of gold and silver, which may give them uniformity and simplicity. At present, the standard of gold, expressed in its lowest terms, is 116 parts fine in 129; and that of silver, is 1,485 parts fine in 1,664. No reason is known to me in favor of retaining these complicated proportions, which do not correspond with each other, or with the standards of any other nation, and which, in the operations of the Mint, and the estimates of the value of foreign coins, give rise to calculations that are long and troublesome, and therefore liable to error. I would respectfully propose that the standard, both for gold and silver, be established at 900 parts of the pure metal in 1,000 of the standard. The change, with regard to the gold, would be scarcely appreciable, the present standard corresponding to 899.225 thousandths, so that if 900 were used, the weights of the gold coins might still be retained, without any sensible change in their value. Our present standard of silver is 892.428 thousandths, and is therefore more base than that proposed; but if, with the change of standard, the weight of the dollar be reduced from 416 grains to 412½, the value will be exactly the same as before. It is proper to mention, that the proposed decimal standard is that of the French, who have employed it since the time of their revolution. The Spanish standard is 902$\frac{7}{9}$ thousandths, but the Spanish American coins are generally below this, so as in fact to differ, in their average fineness, but little from 900. Now, a great portion of our silver deposites consists of these coins, and it would therefore be of great advantage to employ nearly the same standard. At present we are under the necessity of using large quantities of copper to reduce the bullion to our standard,—an operation by which the metal is rendered less malleable, and which subjects the depositor to a charge for alloy, in return for which he receives no valuable consideration.

Plans and specifications were carefully prepared here of the buildings for the branch mints at New Orleans, Charlotte, and Dahlohnega; satisfactory contracts for their erection have been made; and they are now in progress under the superintendence of the commissioners appointed for that purpose. Contracts have also been entered into with skilful mechanics in Philadelphia, for making all the machinery for these mints after the most approved models. The cost of the buildings and machinery will be within the amount appropriated for these objects. With all the exertions that have been made, it will still be more than a year before the branch mints can be put into operation.

In the act establishing the branches of the mint, it is stated that each branch shall have "one assayer, one melter, and one refiner." The duties of melter and refiner have always been committed to the same officer in this Mint, and I cannot see any sufficient reason for separating them. Indeed, in the gold mints, the duties of assayer, melter, and refiner might be readily performed by one officer.

The same act provides for the appointment of the officers of the branch mints, "so soon as the necessary buildings are erected for the purpose of well conducting the business." I would respectfully submit the propriety of so amending the act as to allow the appointments of chief coiner, assayer, and melter and refiner, to be made at an earlier period. I believe it will be impossible to find, in the country, persons qualified to enter at once upon the execution of these difficult offices, and it would certainly be imprudent to commit so important a matter, as the public coinage, into the hands of men uninstructed in the art, or of whose capacity no evidence had been given. If, however, the officers were appointed some time before their services were required, they might receive practical instruction in their several departments at the principal Mint, and thus be put in possession of the knowledge necessary for the successful performance of the duties to be afterwards enstrusted to them.

I am, sir,
With deep respect,
Your faithful servant,
R. M. PATTERSON,
Director of the Mint.

To the PRESIDENT
of the United States.

SCHEDULE A.—Coinage of 1835.

	Pieces.	Pieces.	Dollars.	Dollars.
Gold coins.				
Half eagles - -	371,534		1,857,670	
Quarter eagles -	131,402		328,505	
		502,936		2,186,175
Silver coins.				
Half dollars - -	5,352,006		2,676,003	
Quarter dollars -	1,952,000		488,000	
Dimes - -	1,410,000		141,000	
Half dimes - -	2,760,000		138,000	
		11,474,006		3,443,003
Copper coins.				
Cents - -	3,878,400		38,784	
Half cents - -	141,000		705	
		4,019,400		39,489
Total - -	-	15,996,342	-	5,668,667

SCHEDULE B.—Gold deposites at the Mint for 1835.

	Dollars.
Amount received in gold bullion of the United States -	698,500
Do. gold coins U. S. of old standard -	160,500
Do. from Europe - - - -	745,800
Do. from Mexico and South America - -	165,800
Do. from Africa - - - -	57,900
Do. from Arabia - - - -	1,900
Do. Jewellers' base gold - - -	14,600
Total of deposites - -	1,845,000

SCHEDULE C.—Amount of Gold received annually from the Gold Region of the United States, from 1824 to 1835, inclusive.

	Virginia.	North Carolina.	South Carolina.	Georgia.	Tennessee.	Alabama.	Not ascertained.	Total.
1824	–	$ 5,000	–	–	–	–	–	$ 5,000
1825	–	17,000	–	–	–	–	–	17,000
1826	–	20,000	–	–	–	–	–	20,000
1827	–	21,000	–	–	–	–	–	21,000
1828	–	46,000	–	–	–	–	–	46,000
1829	$ 2,500	134,000	$ 3,500	–	–	–	–	140,000
1830	24,000	204,000	26,000	$ 212,000	–	–	–	466,000
1831	26,000	294,000	22,000	176,000	$ 1,000	$ 1,000	–	520,000
1832	34,000	458,000	45,000	140,000	1,000	–	–	678,000
1833	104,000	475,000	66,000	216,000	7,000	–	–	868,000
1834	62,000	380,000	38,000	415,000	3,000	–	–	898,000
1835	60,400	263,500	42,400	319,900	100	–	12,200	698,500
	312,900	2,317,500	242,900	1,478,900	12,100	1,000	12,200	4,377,500

TREASURY DEPARTMENT,
January 15, 1836.

SIR: I have the honor to transmit to you, herewith, some papers from the respective commissioners of the branch mints which are being built in North Carolina, Georgia, and Louisiana, that will show you the progress made in the erection of those branches.

I am, sir,
With much consideration,
Your most obedient servant,
LEVI WOODBURY,
Secretary of the Treasury.

To the PRESIDENT *of the U. States.*

NEW ORLEANS, *November* 20, 1835.

SIR: I have had the honor to receive your communication of the 30th September, in which you request to be furnished with "a special report of what has been done in relation to the erection of the building for the branch of the Mint at New Orleans;" in compliance therewith, I beg leave, respectfully, to make the following report:

On the 19th day of June last past, the municipal authorities of the city of New Orleans conveyed to the United States, by notarial act passed before Felix de Armas, esq. notary public, a certain piece or parcel of land, situated in the city of New Orleans, and known as "Jackson square," immediately fronting the river Mississippi, for the express purpose of erecting thereon a branch of the Mint of the United States, which will more fully and at length appear, from a certified copy of the act of conveyance marked A, and herewith transmitted.

By this liberal and patriotic act, the United States became possessed of one of the most valuable squares of ground in the city, *without any cost to the Government.* The value of this donation has been estimated at little less than $500,000.

Having thus acquired a valuable property, and its location combining many advantages, I lost no time in entering into a contract with Messrs. John Mitchell and Benjamin F. Fox, respectable mechanics of this city, to build the mint according to the plan drawn by Mr. Strickland, of Philadelphia, for the sum of $182,000, a part, however, of the contemplated edifice, to wit, that portion intended for the coinage of silver, embracing one of the wings of the buildings, is, you will perceive from the contract, suspended for the present, the remaining portion of the building, consisting of the centre, and the other wing, as stipulated, to be finished on or before the 15th of May next, for and in consideration of the sum of $142,000, payable in instalments, as the building progresses.

The first three instalments, amounting to the sum of $53,250, will be paid during the present year, the fourth instalment will probably be payable early in the month of February next, and the balance of the contract will be required between that period and the time limited to complete the building, to wit, 15th of May next. On the 22d of August the contract was signed, and made a matter of record before Joseph Cuvillieur, esq. notary public in this city, and duly recorded in the office of the recorder of mortgages; for the particulars and conditions of the contract, I beg leave to refer to it, which was transmitted in my letter of the 25th of August, since which, the contractors for erecting the building have been busily engaged thereon, and at this time they have nearly finished the whole of the walls to the height of the first story. Some delay has taken place, in consequence of being disappointed in receiving the stone for the basement story, and northern brick for the arches. The first is now daily expected, and some further delay may be anticipated in respect to the latter; this, however, is a matter of little consequence, as the walls will have sufficient time to settle.

It is believed that that the whole of the second story will be finished on or before the first day of January next, and the third story, together with the roof, finished on or about the 15th of February, and I have not the least doubt but that the building will be completed according to the contract, and ready for operation by the time stipulated.

This report would have been made you at an earlier day, but has been delayed for some time, under the expectation of the arrival of the different materials ordered by the contractors from Philadelphia and New York, which would have enabled me to have given you more information in detail, respecting the progress of the building.

I have the honor also to transmit, herewith, a plan or sketch of the city of New Orleans, from which you will perceive the situation selected for the establishment of the Mint, also a sketch or plan of the foundations of the building, together with the dimensions of the square of ground, the first marked B and the latter C; all of which are respectfully submitted. I expect to have the pleasure of seeing you in Washington a few days after the receipt hereof.

With sentiments of great regard and esteem,
I have the honor to be, sir,
Your obedient servant,
MARTIN GORDON, Sen.

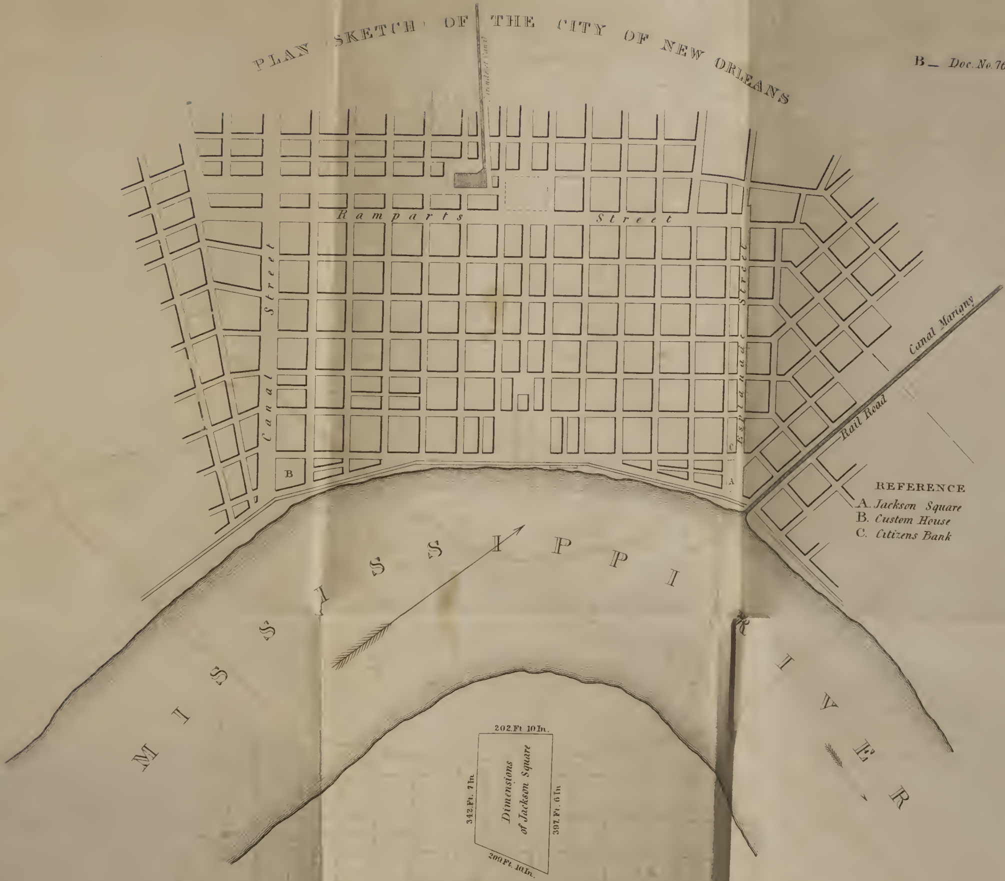
To the Hon. Levi Woodbury,
Secretary of the Treasury.

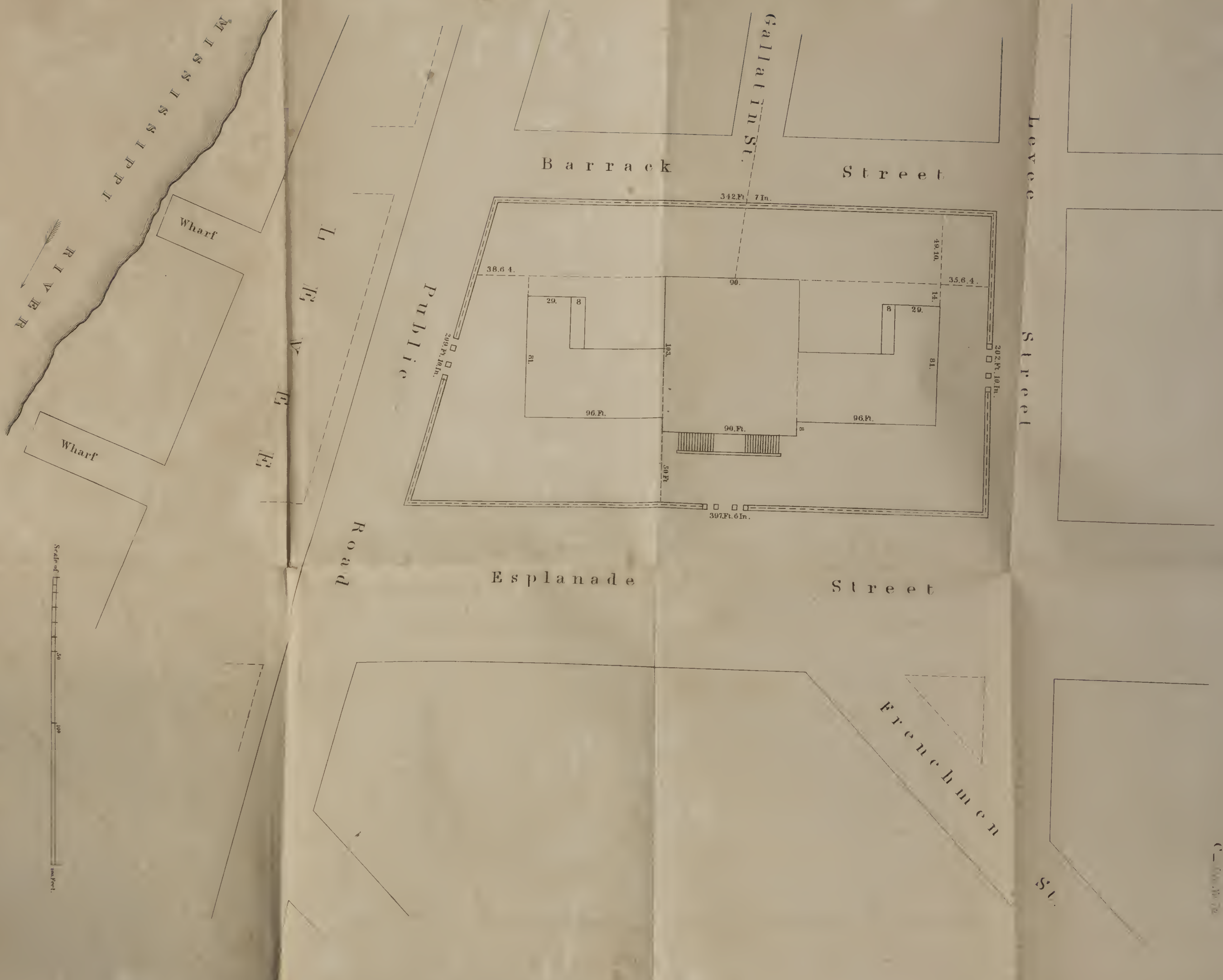
A.

In the city of New Orleans, in the State of Louisiana, this nineteenth day of June, in the year of our Lord one thousand eight hundred and thirty-five, and in the fifty-ninth year of the independence of the United States of America, before me, Felix de Armas, notary public, duly commissioned and sworn, in and for the said city and parish, and in the presence of the undersigned witnesses, personally came and appeared the honorable Denis Prieur, mayor of this city, herein acting for, and in behalf of, the corporation of the mayor, aldermen, and inhabitants, of the city of New Orleans, by virtue of a resolution of the City Council, adopted at their sitting of the 9th of May, last past, and approved on the eleventh day of the same month, (a certified copy whereof is hereto attached, for reference,) of the one part, and Martin Gordon, Esq. of this city, aforesaid, herein acting for, and in behalf of, these United States, as commissioner, appointed by authority of

B — Doc. No. 76.

PLAN SKETCH OF THE CITY OF NEW ORLEANS




MISSISSIPPI
RIVER
Wharf
Wharf
LEVEE
Public
Road
Barrack
Street
Gallatin St.
Levee
Street
Esplanade
Street
Frenchmen
St.
342.Ft. 7 In.
49.10.
38.6 4.
35.6.4.
90.
14.
29.
8
8
29.
81.
103.
81.
96.Ft.
96.Ft.
90.Ft.
8
50 Ft.
209 Ft. 10 In.
202 Ft. 10 In.
397.Ft. 6 In.
Scale of
50
100
200.Feet.

the said United States, with power to superintend the erection and building of a branch of the Mint of the said United States, to be located in this city, of the other part:

Whereas, by the said resolution, it was resolved that the use of the square of ground, now enclosed and known as Jackson square, situated in this city, and bounded as follows, to wit, by Esplanadé street, Barracks street, Levee street, and the public road, be ceded to the United States, for the express and only purpose of erecting thereon a branch of the Mint of the United States, together with the necessary appendages; and that the mayor be, and he is, authorized to convey, by notarial act, to the said Martin Gordon, Esq. the commissioner appointed by authority of the said United States to superintend the erecting and building of the said Mint, the use and occupation of said square, for the purposes aforesaid.

It was further resolved, that should it hereafter be deemed necessary by the Government of the United States to remove the Mint, contemplated to be established as aforesaid, or to cease to occupy it for such purposes, then the said act to be null and void.

And it was further resolved, that the resolution adopted on the 25th day of April last, on the same subject, be and is repealed.

And whereas the said resolution has met with the approbation of the said Martin Gordon, Esq. commissioner as aforesaid:

Now, therefore, the said honorable Denis Prieur, mayor as aforesaid, in execution of the said resolution, does, by these presents, convey to the said Martin Gordon, Esq. commissioner as aforesaid, the use of the square of ground, now enclosed and known as Jackson square, situated in this city of New Orleans, and bounded as follows, to wit: by Esplanade street, Barracks street, Levee street, and the public road. This conveyance, thus made to the United States of the use of the said square, being for the express and only purpose of erecting upon the said square a branch of the Mint of the United States, together with the necessary appendages.

Provided however, That should it hereafter be deemed necessary by the Government of the United States to remove the Mint, contemplated to be established as aforesaid, or to cease to occupy it for such purposes, then this act to be null and void.

This conveyance is hereby accepted by the said M. Gordon, Esq. commissioner as aforesaid, in behalf of the United States.

Done and passed at the city of New Orleans aforesaid, in my office, the day, month, and year first above written, in presence of Messrs. Amedée Ducatel and Alphonse Morel, competent witnesses, who have hereunto set their hands, together with the parties and me, the said notary, after reading the whole.

This act is in conformity with the resolution of the City Council of May 9th ultimo, and approved on the 11th id. and is approved. New Orleans June 19th, 1835.

GEO. EUSTIS,
Attorney of the Corporation.

MARTIN GORDON.
D. PRIEUR, *Mayor.*

AMEDEE DUCATEL.
A. MOREL.
FELIX DE ARMAS, *Notary Public.*

I do hereby certify the foregoing to be a true copy of the original, on file in my office. In faith whereof, I have hereunto set my hand, and affixed the seal of my office, at the city of New Orleans, aforesaid, the day, month and year first above written.

[L. S.]
FELIX DE ARMAS,
Notary Public.

[See Plates B and C.]

MAYORALTY OF NEW ORLEANS—CITY COUNCIL.

Sitting of Saturday, May 9th, 1835:

Resolved, That the use of the square of ground, now enclosed and known as Jackson square, situated in the city of New Orleans, and bounded as follows, to wit: by Esplanade street, Barracks street, Levee street, and the public road, be ceded to the United States, for the express and only purpose of erecting thereon a branch of the Mint of the United States, together with the necessary appendages; and that the Mayor be, and is hereby, authorized to convey, by notarial act, to Martin Gordon, Esq. the commissioner appointed, by the authority of the said United States, to superintend the erection and building of the said Mint, the use and occupation of said square, for the purposes aforesaid.

Be it further resolved, That should it hereafter be deemed necessary by the Government of the United States to remove the Mint, contemplated to be established as aforesaid, or to cease to occupy it for such purposes, then the said act to be null and void.

Be it further resolved, That the resolution adopted on the 25th day of April last, on the same subject, be, and the same is hereby, repealed.

JN. CULBERTSON, *Recorder.*

Approved, May 11th, 1835:
D. PRIEUR, *Mayor.*

A true copy:
CHIARD, Jun. *Secretary.*

I hereby certify the foregoing to be a true copy of the voucher annexed to an act executed before me, the undersigned notary, dated the 19th day of June instant, purporting to be a conveyance by the City Corporation of New Orleans to the Government of the United States.

In faith whereof, I have hereunto set my hand, and affixed the seal of my office at New Orleans aforesaid, this 19th day of June, in [L. S.] the year of our Lord one thousand eight hundred and thirty five, and of the independence of the United States of America the 59th.

FELIX DE ARMAS,
Notary Public.

ATHENS, GEORGIA, *Nov.* 13, 1835.

SIR: In conformity with your instructions, I herewith present a statement of the progress made in erecting the edifice designed for the use of the branch of the United States Mint at Dahlonega, in this State, and an estimate of what probably will be accomplished during the present year. My report is brief, but I suppose it contains all the facts which it is necessary that I should state.

I have just learned that Col. Banks, who holds a memorandum given by me to Mr. Worley, (from whom the lot in Dahlonega was purchased) has sent it to the Treasury Department for payment. He received it from Mr, Worley, in payment of a debt, and being unacquainted with the proper course, transmitted the memorandum by the honorable Jabez Jackson, without apprising me that it was in his possession; he has been informed that it will be paid whenever it is presented to me, and will recal it for that purpose.

Respectfully, your obedient servant,

IGNATIUS A. FEW.

Hon. Levi Woodbury.

Athens, Georgia, *Nov.* 13, 1835.

The commissioner appointed to superintend the erection of the edifice designed for the use of the branch of the United States Mint at Dahlonega, Lumpkin county, Georgia, reports: That he purchased a lot containing ten acres, adjoining the town of Dahlonega, for $1,050, in the month of August last, having selected it in the early part of May; that he received a plan and elevation of the building, on the 4th of August, from the Treasury Department, and immediately thereafter advertised for proposals from contractors; that the 22d September last was appointed to receive them, and on that day eight persons presented proposals for the contract, which was taken by Mr. Benjamin Towns, one of the eight, (his being the lowest offer,) for the sum of $33,450; the edifice to be completed by the 22d day of March, 1837, and a bond for the performance of the contract, with a penalty of $66,900, was signed by the contractor and Dr. James Tinsley and Col. John A. Cobb, all of Athens, Georgia. The contractor expects, during the present year, to be able to have the cellars and the foundations dug out, and a part of the stone quarried and prepared for laying the foundations, also to collect wood for his brick-kilns, and procure a part of the lumber. His operations, during the ensuing winter, will be chiefly confined to the preparation of his materials, that he may be enabled to commence laying the foundations, and burning the brick with the opening of the spring. All which is respectfully submitted

IGNATIUS A. FEW,
Commissioner for superintending erection of Branch Mint, &c.

Charlotte, North Carolina, *Nov.* 2, 1835.

Sir: In compliance with the instructions contained in your letter of the 30th of September, I have the honor to submit herewith the undermentioned statements: 1st. I have purchased a site for the branch mint, in the town of Charlotte, North Carolina, containing eight lots; a full square, containing near four acres of land, for the sum of $1,500. Deeds for this property are executed to the United States by William Carson and F. L. Smith, of whom I purchased the property. I will forward the deeds to you as soon as I can get them recorded and registered, which will be on the fourth Monday of this month, the time our quarterly court will be in session. Deeds in this State can only be recorded during the session of court, which will delay the forwarding of them until after that time.

2d. After due advertisement in the Charlotte Journal, Washington Globe, Richmond Enquirer, and the North Carolina Standard, to receive proposals for the erection of the building for the branch mint at Charlotte, North Carolina, according to a plan and details furnished me by the Director of the Mint, Philadelphia, and approved by yourself, I awarded and let the contract to Messrs. Perry and Ligon, of Raleigh, North Carolina, on the 15th day of October last, at the sum of $29,800; their proposal being several thousand dollars less than any other proposal made. I have no doubt, from the character of these men as builders, that the work will be done in the best manner, and completed in the time agreed upon, which is the 1st day of January, 1837.

3d. I have reserved to myself, as commissioner in behalf of the United States, the right of examining all the materials as they are delivered by the undertakers, and accept or reject them as I may think proper; also the right of examining the work as it progresses, and suffer none to be put up only in the best manner. The undertakers are to receive payment from time to time, in proportion to the materials delivered and work done, three-fourths of the value thereof, the balance when the building is completed.

4th. I think that $6,000 will be sufficient to pay the purchase of the site and all other expenses for furnishing materials, up to the 1st day of January, 1836; the balance for the erecting the building will be required from time to time as the work in erecting the building progresses.

5th. The Director of the Mint, Philadelphia, has informed me that the machinery necessary for the branch mint at Charlotte, North Carolina, will be ready in due time to have put up before the building is completed. The machinery, it is supposed, will cost $15,000. I think the appropriation by Congress will be amply sufficient to cover all expenses in the purchase of site, erection of the building, machinery, &c. And perhaps there may be enough saved out of the appropriation to enclose the ground for the site, &c. If not, I hope Congress will make an appropriation to enclose the site with iron railing. All of which is respectfully submitted by

Your obedient servant,
SAM. McCOMB,
Commissioner of the Branch Mint, Charlotte, N. C.

Hon. Levi Woodbury,
Secretary of the Treasury.

24th Congress,
2d Session.

[Doc. No. 96.]

Ho. of Reps.
Executive.

UNITED STATES MINT.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

TRANSMITTING

The annual report of the Director of the Mint.

January 23, 1837.
Read, and laid upon the table.

To the House of Representatives of the United States:

I herewith transmit a copy of the annual report of the Director of the Mint, at Philadelphia, showing the operations of that institution during the past year; and, also, the progress made towards completion of the branch mints in North Carolina, Georgia, and Louisiana.

ANDREW JACKSON.

January 19, 1837.

Mint of the United States,
Philadelphia, January 17, 1837

Sir: In compliance with the law which requires that, "in the month of January of every year, the Director shall make report to the President of the United States of the operations of the Mint and its branches for the year preceding," I have the honor to submit to you the following statement.

The coinage executed in 1836 has amounted to $7,764,900, comprising $4,135,700 in gold, $3,606,100 in silver, and $23,100 in copper, and composed of 13,719,333 pieces of coin. (Statement A.)

This amount of coinage is greater, not only in the aggregate, but both as to gold and silver, than that of any previous year since the establishment of the Mint. (See annexed table.)

The deposites of gold within the year have amounted, in round numbers, to $4,084,000. (Statement B.) The greater part of this important addition to our metallic currency is due to the wise measure of introducing the payments of the French indemnity in gold. The bullion derived from the mines of the United States was but $467,000. (Statement C.) The

Blair & Rives, printers.

exhaustion of the surface and deposite mines, and the very profitable employment of labor in raising cotton at the present prices, are obvious reasons for the diminished production of the gold mines of the Southern States, indicated by the quantity brought to the Mint. Of the immense wealth which these mines contain, there cannot, however, be any doubt; and individuals well informed with regard to them express a perfect confidence that they are destined at a future, and perhaps an early, day, to yield gold in such quantity as to exert an extensive and beneficial influence upon the circulation of the country.

The amount of gold bullion in our vaults, at the end of the year, was $18,306; no part of which was deposited earlier than November 28. The amount of silver remaining uncoined is $306,315; no part of which was deposited earlier than November 18.

In the gold coinage, the proportion of quarter eagles was much greater than in any former year, the number of these pieces being 547,986; while the number struck before this, from the time the Mint was established, was only 309,034.

The coinage of dollars has been intermitted at the Mint since the year 1805, so that the unit of our monetary system was rarely to be met with in circulation. At the close of the last year, this coinage was resumed; and no pains were spared to make the new coin a more creditable specimen of taste and art than the old. I am happy to know that the efforts used for this purpose have met your approbation.

The last year has been marked by the introduction of important improvements in every department of the Mint.

Changes have been made in the arrangements for assaying, which place this part of our establishment upon a footing with the most perfect in Europe.

For making the ingots, a new system of melting and pouring has been introduced, which, without any increase of labor, will more than double the work that can be done in this department. In the refinery, the process of recovering the silver from its solution, after the separation of gold, has been completely changed, so as to avoid the noxious fumes which attended the old method, to obtain the results much more rapidly, and greatly to reduce the expense. The pulverizing and sifting of the waste-stuff, always heretofore performed by hand, are now, by the introduction of suitable machinery, executed entirely, and much more effectually, by steam power.

Before the last year, the dies were formed only in part from the hub—much work still remaining to be executed by the engraver before they were ready for coining. By a modification of the process lately introduced, the entire impression on the die is transferred by the aid of the press alone; thus, not only saving much unnecessary labor to the engraver, but securing the desirable object of making the dies, for the same denominations of coins, exact fac-similes of one another.

On the 23d of March last, the first steam coinage in America was executed at this Mint; and the performance of the press, in which the power of the lever is substituted for that of the screw, has answered all our expectations. Since that time, all the copper coins have been struck by this press, and it has been lately used with success for coining half dollars. The workmen are now engaged in making other steam presses; and, as these are completed, the coining by human labor will be abandoned, and the work that can be executed in this department of the mint will be greatly increased.

The milling of the pieces, heretofore done exclusively by hand, is now, by means of an instrument contrived and made here for that purpose, also executed by the power of the steam engine.

Although much has been thus accomplished, the improvements required at the Mint are still incomplete; and much must yet be done to give to the institution all the efficiency of which it is susceptible. No exertions shall be spared, until this desirable end is attained.

A most important measure, with regard to the Mint, is the recent act of Congress which gives it, for the first time, a complete legal organization. In this act, the recommendations made in my last report, of a mint deposite, and the change of our complicated standards to the simple one of nine-tenths, both for gold and silver, have been adopted.

The appropriation of $200,000 not having been found sufficient to procure the machinery and erect the whole building for the branch mint at New Orleans, contracts were made only for the centre building and one of the wings. The commissioner reports to me that these are, or soon will be, so far completed as to receive the machinery, and admit the operations to be carried on upon a limited scale. It is desirable, however, that the whole building should be finished without delay, and an appropriation has been asked for this purpose. The machinery for this mint has been made here, and, with the exception of the presses, which are nearly completed, has been sent to New Orleans, where it has arrived safely. A contract has been made with a competent engineer for fitting up the whole machinery, including the steam engine, in complete working order.

The buildings for the branch mints at Charlotte and Dahlonega are far advanced, and it is expected that they will be completed in the course of the next spring. Nearly all the machinery for these mints is already finished, and the whole will be forwarded as soon as the buildings are ready to receive it.

Unless some difficulties occur, which I do not foresee, all the branch mints may certainly be put in operation in the course of the present year.

I have the honor to be, sir,
With high respect,
Your faithful servant,
R. M. PATTERSON,
Director of the Mint.

To the PRESIDENT OF THE UNITED STATES.

A.

STATEMENT of the coinage of 1836, *at the Mint of the United States.*

Denominations.	Pieces.	Value.
GOLD.—Half eagles	553,147	$2,765,735
Quarter eagles	547,986	1,369,965
	1,101,133	4,135,700
SILVER.—Dollars	1,000	1,000
Half dollars	6,546,200	3,273,100
Quarter dollars	472,000	118,000
Dimes	1,190,000	119,000
Half dimes	1,900,000	95,000
	10,109,200	3,606,100
COPPER.—Cents	2,111,000	21,110
Half cents	398,000	1,990
	2,509,000	23,100
Whole number of pieces	13,719,333	7,764,900

B.

STATEMENT of gold deposites at the Mint in 1836.

The deposites of gold for coinage amount to			$4,084,000
Of which was received from the United States, viz:			
Virginia	$62,000		
North Carolina	148,100		
South Carolina	55,200		
Georgia	201,400		
Tennessee	300		
		$467,000	
Coins of the United States of old standard		5,000	
Coins and bullion from England		230,000	
Do. do. from France		3,160,000	
Do. do. from other European States		75,400	
Do. do. from Mexico and South America		124,700	
Bullion from Africa		8,700	
Jewellers' base gold		13,200	
			$1,084,000

C.

STATEMENT of the annual amounts of deposites of gold, for coinage, from the mines of the United States.

Years.	Virginia.	N. Carolina.	S. Carolina.	Georgia.	Tennessee.	Alabama.	Not ascertained.	Total.
1824	-	$5,000	-	-	-	-	-	$5,000
1825	-	17,000	-	-	-	-	-	17,000
1826	-	20,000	-	-	-	-	-	20,000
1827	-	21,000	-	-	-	-	-	21,000
1828	-	46,000	-	-	-	-	-	46,000
1829	$2,500	134,000	$3,500	-	-	-	-	140,000
1830	24,000	204,000	26,000	$212,000	-	-	-	466,000
1831	26,000	294,000	22,000	176,000	$1,000	$1,000	-	520,000
1832	34,000	458,000	45,000	140,000	1,000	-	-	678,000
1833	104,000	475,000	66,000	216,000	7,000	-	-	868,000
1834	62,000	380,000	38,000	415,000	3,000	-	-	898,000
1835	60,400	263,500	42,400	319,900	100	-	$12,200	698,500
1836	62,000	148,100	55,200	201,400	300	-	-	467,000
	374,900	2,465,600	298,100	1,680,300	12,400	1,000	12,200	4,844,500

Bechtler coined from Dec 34 to Dec 35
$ 695.869

***TABULAR STATEMENT** of the amount of coinage at the Mint, in the several denominations of coin, from the commencement of its operations until the 31st of December, 1836, inclusive.*

Periods.	Eagles.	Half eagles.	Quarter eagles.	Dollars.	Half dollars.	Quarter dollars.	Dimes.	Half dimes.	Cents.
1792 1793 1794 1795	2,795	8,707	-	204,791	323,144	-	-	86,416	1,066,033
1796 -	6,934	6,196	963	72,920	3,918	5,894	22,135	10,230	974,700
1797 -	8,323	3,609	859	7,776	-	252	25,261	44,527	897,510
1798 -	7,974	24,867	614	327,536	-	-	27,550	-	979,700
1799 -	17,483	7,451	480	423,515	-	-	-	-	904,585
1800 -	25,965	11,622	-	220,920	-	-	21,760	24,000	2,822,175
1801 -	29,254	26,006	-	54,454	30,289	-	34,640	33,910	1,362,837
1802 -	15,090	53,176	2,612	41,650	29,890	-	10,975	13,010	3,435,100
1803 -	8,979	33,506	423	66,064	31,715	-	33,040	37,850	2,471,353
1804 -	9,795	30,475	3,327	19,570	156,519	6,738	8,265	-	756,838
1805 -	-	33,183	1,781	321	211,722	121,394	120,780	15,600	941,116
1806 -	-	64,093	1,616	-	839,576	206,124	-	-	348,000
1807 -	-	84,093	6,812	-	1,051,576	220,643	165,000	-	727,221
1808 -	-	55,578	2,710	-	1,368,600	-	-	-	1,109,000
1809 -	-	33,875	-	-	1,405,810	-	44,710	-	222,867
1810 -	-	100,287	-	-	1,276,276	-	6,355	-	1,458,500
1811 -	-	99,581	-	-	1,203,644	-	65,180	-	218,025
1812 -	-	58,087	-	-	1,628,059	-	-	-	1,075,500
1813 -	-	95,428	-	-	1,241,903	-	-	-	418,000
1814 -	-	15,454	-	-	1,039,075	-	421,500	-	357,830
1815 -	-	635	-	-	-	69,232			
1816 -	-	-	-	-	47,150	20,003	-	-	2,820,982
1817 -	-	-	-	-	1,215,567	-	-	-	3,948,400
1818 -	-	48,588	-	-	1,960,322	361,174	-	-	3,167,000
1819 -	-	51,723	-	-	2,208,000	144,000	-	-	2,671,000
1820 -	-	263,806	-	-	751,122	127,444	942,587	-	4,407,550
1821 -	-	34,641	6,448	-	1,305,797	216,851	1,186,512	-	389,000
1822 -	-	17,796	-	-	1,559,573	64,080	100,000	-	2,072,339
1823 -	-	14,485	-	-	1,694,200	17,800	440,000		
1824 -	-	17,340	2,600	-	3,504,954	-	-	-	1,262,000

1825 -	-	29,060	4,434	-	2,943,166	168,000	510,000	-	1,461,100
1826 -	-	18,069	760	-	4,004,180	-	-	-	1,517,425
1827 -	-	24,913	2,800	-	5,493,400	4,000	1,215,000	-	2,357,732
1828 -	-	28,029	-	-	3,075,200	102,000	125,000	-	2,260,624
1829 -	-	57,442	3,403	-	3,712,156	-	770,000	1,230,000	1,414,500
1830 -	-	126,351	4,540	-	4,764,800	-	510,000	1,240,000	1,711,560
1831 -	-	140,594	4,520	-	5,873,660	398,000	771,350	1,242,700	3,359,260
1832 -	-	157,487	4,400	-	4,797,000	320,000	522,500	965,000	2,362,000
1833 -	-	193,630	4,160	-	5,206,000	156,000	485,000	1,370,000	2,739,000
1834 -	-	732,169	117,370	-	6,412,004	286,000	635,000	1,480,000	1,855,100
1835 -	-	371,534	131,402	-	5,352,006	1,952,000	1,410,000	2,760,000	3,878,400
1836 -	-	553,147	547,986	1,000	6,546,200	472,000	1,190,000	1,900,000	2,111,000
Total -	132,592	3,726,713	857,020	1,440,517	84,268,173	5,439,629	11,820,100	12,453,243	70,312,802

STATEMENT—Continued.

Periods.	Half cents.	Pieces of gold.	Value of gold.	Pieces of silver.	Value of silver.	Pieces of copper.	Value of copper.	Whole coinage in pieces.	Whole coinage in value.
1792 1793 1794 1795	142,534	11,502	$71,485 00	614,351	$370,683 80	1,208,567	$11,373 00	1,834,420	$453,541 80
1796 -	115,480	14,093	102,727 50	115,097	79,077 50	1,090,180	10,324 40	1,219,370	192,129 40
1797 -	107,048	12,791	103,422 50	77,816	12,591 45	1,004,558	9,510 34	1,095,165	125,524 29
1798 -	-	33,455	205,610 00	355,086	330,291 00	979,700	9,797 00	1,368,241	545,698 00
1799 -	12,167	25,414	213,285 00	423,515	423,515 00	916,752	9,106 68½	1,365,681	645,906 68½
1800 -	211,530	37,587	317,760 00	266,680	224,296 00	3,033,705	29,279 40	3,337,972	571,335 40
1801 -	-	55,260	422,570 00	153,293	74,758 00	1,362,837	13,628 37	1,571,390	510,956 37
1802 -	14,366	70,878	423,310 00	95,525	58,343 00	3,449,466	34,4[illegible] 83	3,615,869	516,075 83
1803 -	97,900	42,908	258,377 50	168,669	87,118 00	2,569,253	25,203 03	2,780,830	370,698 53
1804 -	1,055,312	43,597	258,642 50	191,092	100,340 50	1,812,150	12,844 94	2,046,839	371,827 94
1805 -	814,464	34,964	170,367 50	469,817	149,388 50	1,755,580	13,483 48	2,260,361	333,239 48
1806 -	356,000	65,709	324,505 00	1,045,700	471,319 00	704,000	5,260 00	1,815,409	801,084 00
1807 -	476,000	90,905	437,495 00	1,437,219	597,448 75	1,203,221	9,652 21	2,731,345	1,004,595 96
1808 -	400,000	58,288	284,665 00	1,368,600	684,300 00	1,509,000	13,090 00	2,935,888	982,055 00
1809 -	1,154,572	33,875	169,375 00	1,450,520	707,376 00	1,377,439	8,001 53	2,861,834	884,752 53
1810 -	215,000	100,287	501,435 00	1,282,631	638,773 50	1,673,500	15,660 00	3,056,418	1,155,868 50
1811 -	63,140	99,581	497,905 00	1,268,824	608,340 00	281,165	2,495 95	1,649,570	1,108,740 95
1812 -	-	58,087	290,435 00	1,628,059	814,029 50	1,075,500	10,755 00	2,761,646	1,115,219 50
1813 -	-	95,428	477,140 00	1,241,903	620,951 50	418,000	4,180 00	1,755,331	1,102,271 50
1814 -	-	15,454	77,270 00	1,460,575	661,687 50	357,830	3,578 30	1,833,859	642,535 80
1815 -	-	635	3,175 00	69,232	17,308 00	-	-	69,867	20,483 00
1816 -	-	-	-	67,153	28,575 75	2,820,982	28,209 82	2,888,135	56,785 57
1817 -	-	-	-	1,215,567	607,783 50	3,948,400	39,484 00	5,163,967	647,267 50
1818 -	-	48,588	242,940 00	2,321,496	1,070,454 50	3,167,000	31,670 00	5,537,084	1,345,064 50
1819 -	-	51,723	258,615 00	2,352,000	1,140,000 00	2,671,000	26,710 00	5,074,723	1,425,325 00
1820 -	-	263,806	1,319,030 00	1,821,153	501,680 70	4,407,000	44,075 50	6,492,509	1,864,786 20
1821 -	-	41,089	189,325 00	2,709,160	825,762 45	389,000	3,890 00	3,139,249	1,018,977 45
1822 -	-	17,796	88,980 00	1,723,653	805,806 50	2,072,339	20,723 39	3,813,788	915,509 89
1823 -	-	14,485	72,425 00	2,152,000	895,550 00	-	-	2,166,485	967,975 00
1824 -	-	19,940	93,200 00	3,504,954	1,752,477 00	1,262,000	12,620 00	4,786,894	1,858,297 00
1825 -	63,000	33,494	156,385 00	3,621,166	1,564,583 00	1,524,000	14,926 00	5,178,760	1,735,894 00

1826 -	234,000	18,829	92,245 00	4,004,180	2,002,090 00	1,751,425	16,344 25	5,774,434	2,110,679 25
1827 -	-	27,713	131,565 00	6,712,400	2,869,200 00	2,357,732	23,577 32	9,097,845	3,024,342 32
1828 -	606,000	28,029	140,145 00	3,302,200	1,575,600 00	2,866,624	25,636 24	6,196,853	1,741,381 24
1829 -	487,000	60,845	295,717 50	5,712,156	1,994,578 00	1,901,500	16,580 00	7,674,501	2,306,875 50
1830 -	-	130,891	643,105 00	6,514,800	2,495,400 00	1,711,500	17,115 00	8,357,191	3,155,620 00
1831 -	2,200	145,114	714,270 00	8,285,710	3,175,600 00	3,361,460	33,603 60	11,792,284	3,923,473 60
1832 -	-	161,887	798,435 00	6,604,500	2,579,000 00	2,362,000	23,620 00	9,128,387	3,401,055 00
1833 -	154,000	197,790	978,550 00	7,217,000	2,759,000 00	2,893,000	28,160 00	10,307,790	3,765,710 00
1834 -	120,000	849,539	3,954,270 00	8,813,004	3,415,002 00	1,975,100	19,151 00	11,637,643	7,388,423 00
1835 -	141,000	502,936	2,186,175 00	11,474,006	3,443,003 00	4,019,400	39,489 00	15,996,342	5,668,667 00
1836 -	398,000	1,101,133	4,135,700 00	10,169,200	3,606,100 00	2,509,000	23,160 00	13,719,333	7,764,900 00
Total -	7,440,713	4,716,325	$22,102,035 00	115,421,762	$46,739,182 90	77,752,965	$740,331 58½	197,891,502	$69,581,549 48½

MINT OF THE UNITED STATES.

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES,

TRANSMITTING

A Report of the Director of the Mint, showing the Operations of that institution during the year 1837.

January 17, 1838.
Read, and laid upon the table.

To the House of Representatives:

I herewith transmit a report from the Director of the Mint, showing the operations of that institution during the year 1837; and, also, the progress made towards the completion of the branch mints, in North Carolina, Georgia, and Louisiana.

M. VAN BUREN.

January 16, 1838.

Mint of the United States,
Philadelphia, January 13, 1838.

Sir: In compliance with the law which requires that, "in the month of January of every year, the Director shall make report to the President of the United States of the operations of the Mint and its branches for the year preceding," I have the honor to submit to you the following statement:

The coinage executed in 1837 has amounted to $3,299,898; comprising $1,148,305 in gold, $2,096,010 in silver, and $55,583 in copper, and composed of 13,010,721 pieces of coin. (Statement A.)

The deposites of gold within the year amounted to $1,145,000; of which only $282,000 was derived from the mines of the United States. (Statements B and C.)

The necessities of the circulation having required a large amount of small coins, the proportion of such coins struck in 1837 greatly exceeds

Thomas Allen, print.

that of any former year; the number of pieces of less value than the half dollar being more than nine millions. (Tabular statement D.)

The laws authorizing deposites with the Mint of public funds, "for the purchase of bullion for coinage," and "for enabling the Mint to make the returns to depositors with as little delay as possible," have proved of great benefit in our own operations, and, during the late derangements in the currency, of great importance to the public interests. At the close of the year there was in our vaults, on these accounts, the amount of $789,218 73 in gold and silver; and there had been withdrawn, on Treasury drafts, coins to the amount of $476,449 08.

The increased efficiency of the Mint, and the possession of the Government deposites, have enabled us, during the past year, for the first time, to avoid the delays to which we were formerly forced to subject depositors of bullion, and to make returns to them in coins as soon as the value of their deposites could be ascertained. I have, therefore, on this occasion, the satisfaction to report that not a single dollar of deposites made before the close of the year remains unpaid.

The machinery of the New Orleans branch mint was executed, and the steam-engine set in action, in May last; and there would have been no difficulty in putting the mint in full operation, but for the apprehensions from the climate. Two of the officers and all the workmen were from the Middle States, and unacclimated; and I was advised by the resident officers that they would incur great risk in going to New Orleans in the warm season. The occurrence of a fatal epidemic, soon after, proved that these apprehensions were too well founded; and the officers and men from this place were thereby prevented from reaching New Orleans before the beginning of December. They are now, however, all at their stations, and making every exertion to commence the operations of the mint at an early day.

The machinery for the branch mint at Charlotte, North Carolina, was shipped to Charleston in April; and, in the following month, competent workmen were sent forward to put it in operation. Great delay and difficulty occurred, however, in transporting the heavy machinery to Charlotte, so that the steam-engine was not set in action until the middle of August.

The machinery for the branch mint at Dahlonega, in Georgia, was sent to Savannah in May, and difficulty and delay also occurred in its transportation thence by land. After the workmen employed at Charlotte had finished their task, they proceeded to Dahlonega, to erect the machinery there; and they completed this work early in November.

To put up the furnaces and refineries of these mints, masons were sent from Philadelphia; and, in order that this important part of the work might be properly executed, as well as for the purpose of giving advice and aid in other essential points, one of the officers of this Mint was requested to go to Charlotte and Dahlonega; and I have reason to believe that his visit was of great importance.

The mint building at New Orleans is completed, so far as is necessary for the mint operations; only one of the wings, intended for the residence of the officers, being unfinished. The mint at Dahlonega is nearly completed, except as to the enclosure and out-buildings. The mint at Charlotte is entirely finished, and has commenced operations, so far as to be receiving deposites and assaying. The certificates of this branch are, for the present, paid here ; so that it may, in this way, retain gold to furnish a fund, for the purpose of enabling it hereafter to make prompt payments on the spot, for the bullion that may be furnished for coinage.

In consequence of the location of the new mints in places where there are no manufactories and few mechanical resources, it has been necessary to send from here every article of machinery and apparatus, many even of the ordinary materials, and all the workmen required for erecting the machinery, furnaces, refineries, and other fixtures. If, therefore, there has been much delay in getting these mints in operation, it is but just to observe that the task presented peculiar difficulties. The delay, moreover, has been accompanied by one important advantage : since it has given full opportunity to the officers and the principal hands to perfect themselves in their respective departments, by actual practice in this Mint; so that, when they begin their operations at the branches, the public may have confidence in their ability to discharge them with skill and accuracy.

I have the honor to be, sir, with great respect, your faithful servant,

R. M. PATTERSON,
Director of the Mint.

To the PRESIDENT *of the United States.*

A.

Statement of the coinage at the Mint of the United States, Philadelphia, in the year 1837.

Denominations.	Pieces.	Pieces.	Value.	Value.
Gold:				
Half eagles -	207,121	–	$1,035,605	
Quarter eagles -	45,080	–	112,700	
		252,201		$1,148,305
Silver:				
Half dollars -	3,629,820	–	$1,814,910	
Quarter dollars -	252,400	–	63,100	
Dimes -	1,042,000	–	104,200	
Half dimes -	2,276,000	–	113,800	
		7,200,220		2,096,010
Copper:				
Cents -	–	5,558,300	–	55,583
Whole number	of pieces -	13,010,721	Whole value	3,299,898

B.

Statement of deposites of Gold for coinage, at the Mint of the United States, Philadelphia, 1837.

The deposites of gold for coinage amount to - -			$1,145,000
Of which was received from the United States, viz:			
Virginia, - - -	$52,100		
North Carolina, - -	116,900		
South Carolina, - -	29,400		
Georgia, - - -	83,600		
		$282,000	
Coins of the United States of old standard,		21,800	
Coins and bullion from Europe, - -		633,500	
Coins and bullion from Mexico and S. America,		174,400	
Bullion from Africa, - - -		22,100	
Jewelry, - - - - -		11,200	
			1,145,000

To 1836 2 465 600
1837 416.900
2.882.500

C.

Statement of the annual amounts of deposites of Gold, for coinage, at the Mint of the United States, Philadelphia, from the mines of the United States.

	Virginia.	North Carolina.	South Carolina.	Georgia.	Tennessee.	Alabama.	Not ascertained.	Total.
1824	–	$5,000	–	–	–	–	–	$5,000
1825	–	17,000	–	–	–	–	–	17,000
1826	–	20,000	–	–	–	–	–	20,000
1827	–	21,000	–	–	–	–	–	21,000
1828	–	46,000	–	–	–	–	–	46,000
1829	$2,500	134,000	$3,500	–	–	–	–	140,000
1830	24,000	204,000	26,000	$212,000	–	–	–	466,000
1831	26,000	294,000	22,000	176,000	$1,000	$1,000	–	520,000
1832	34,000	458,000	45,000	140,000	1,000	–	–	678,000
1833	104,000	475,000	66,000	216,000	7,000	–	–	868,000
1834	62,000	380,000	38,000	415,000	3,000	–	–	898,000
1835	60,400	263,500	42,400	319,900	100	–	$12,200	698,500
1836	62,000	148,100	55,200	201,400	300	–	–	467,000
1837	52,100	116,900	29,400	83,600	–	–	–	282,000
	427,000	2,582,500	327,500	1,763,900	12,400	1,000	12,200	5,126,500

D.

Tabular statement of the amount of coinage at the Mint of the United States, in the several denominations of coin, since the commencement of its operations until the 31st of December, 1837, *inclusive.*

Periods.	Eagles.	Half Eagles.	Quarter Eagles.	Dollars.	Half Dollars.	Quarter Dollars.	Dimes.	Half Dimes.
1793 1794 1795	2,795	8,707	–	204,791	323,144	–	–	86,416
1796	6,934	6,196	963	72,920	3,918	5,894	22,135	10,230
1797	8,323	3,609	859	7,776	–	252	25,261	44,527
1798	7,974	24,867	614	327,536	–	–	27,550	
1799	17,483	7,451	480	423,515				
1800	25,965	11,622	–	220,920	–	–	21,760	24,000
1801	29,254	26,006	–	54,454	30,289	–	34,640	33,910
1802	15,090	53,176	2,612	41,650	29,890	–	10,975	13,010
1803	8,979	33,506	423	66,064	31,715	–	33,040	37,850
1804	9,795	30,475	3,327	19,570	156,519	6,738	8,265	
1805	–	33,183	1,781	321	211,722	121,394	120,780	15,600
1806	–	64,093	1,616	–	839,576	206,124		
1807	–	84,093	6,812	–	1,051,576	220,643	165,000	
1808	–	55,578	2,710	–	1,368,600			
1809	–	33,875	–	–	1,405,810	–	44,710	
1810	–	100,287	–	–	1,276,276	–	6,355	
1811	–	99,581	–	–	1,203,644	–	65,180	
1812	–	58,087	–	–	1,628,059			
1813	–	95,428	–	–	1,241,903			
1814	–	15,454	–	–	1,039,075	–	421,500	

1815	–	635	–	–	–	69,232		
1816	–	–	–	–	47,150	20,003		
1817	–	–	–	–	1,215,567			
1818	–	48,588	–	–	1,960,322	361,174		
1819	–	51,723	–	–	2,208,000	144,000		
1820	–	263,806	–	–	751,122	127,444	942,587	
1821	–	34,641	6,448	–	1,305,797	216,851	1,186,512	
1822	–	17,796	–	–	1,559,573	64,080	100,000	
1823	–	14,485	–	–	1,694,200	17,800	440,000	
1824	–	17,340	2,600	–	3,504,954			
1825	–	29,060	4,434	–	2,943,166	168,000	510,000	
1826	–	18,069	760	–	4,004,180			
1827	–	24,913	2,800	–	5,493,400	4,000	1,215,000	
1828	–	28,029	–	–	3,075,200	102,000	125,000	
1829	–	57,442	3,403	–	3,712,156	–	770,000	1,230,000
1830	–	126,351	4,540	–	4,764,800	–	510,000	1,240,000
1831	–	140,594	4,520	–	5,873,660	398,000	771,350	1,242,700
1832	–	157,487	4,400	–	4,797,000	320,000	522,500	965,000
1833	–	193,630	4,160	–	5,206,000	156,000	485,000	1,370,000
1834	–	732,169	117,370	–	6,412,004	286,000	635,000	1,480,000
1835	–	371,534	131,402	–	5,352,006	1,952,000	1,410,000	2,760,000
1836	–	553,147	547,986	1,000	6,546,200	472,000	1,190,000	1,900,000
1837	–	207,121	45,080	–	3,629,820	252,400	1,042,000	2,276,000
	132,592	3,933,834	902,100	1,440,517	87,897,993	5,692,029	12,862,100	14,729,243

STATEMENT D—Continued.

Periods.	Cents.	Half Cents.	Pieces of Gold.	Value of Gold.	Pieces of Silver.	Value of Silver.	Pcs. of Copper.	Val. of Copper.
1793	1,066,033	142,534	11,502	$71,485	614,351	$370,683 80	1,208,567	$11,373
1794								
1795								
1796	974,700	115,480	14,093	102,727 50	115,097	79,077 50	1,090,180	10,324 40
1797	897,510	107,048	12,791	103,422 50	77,816	12,591 45	1,004,558	9,510 34
1798	979,700	–	33,455	205,610	355,086	330,291	979,700	9,797
1799	904,585	12,167	25,414	213,285	423,515	423,515	916,752	9,107 68
1800	2,822,175	211,530	37,587	317,760	266,680	224,296	3,033,705	29,279 40
1801	1,362,837	–	55,260	422,570	153,293	74,758	1,362,837	13,628 37
1802	3,435,100	14,366	70,878	423,310	95,525	58,343	3,449,466	34,422 83
1803	2,471,353	97,900	42,908	258,377 50	168,669	87,118	2,569,253	25,203 03
1804	756,838	1,055,312	43,597	258,642 50	191,092	100,340 50	1,812,150	12,844 94
1805	941,116	814,464	34,964	170,367 50	469,817	149,388 50	1,755,580	13,483 48
1806	348,000	356,000	65,709	324,505	1,045,700	471,319	704,000	5,260
1807	727,221	476,000	90,905	437,495	1,437,219	597,448 75	1,203,221	9,652 21
1808	1,109,000	400,000	58,288	284,665	1,368,600	684,300	1,509,000	13,090
1809	222,867	1,154,572	33,875	169,375	1,450,520	707,376	1,377,439	8,001 53
1810	2,458,500	215,000	100,287	501,435	1,282,631	638,773 50	1,673,500	15,660
1811	218,025	63,140	99,581	497,905	1,268,824	608,340	281,165	2,495 95
1812	1,075,500	–	58,087	290,435	1,628,059	814,029 50	1,075,500	10,755
1813	418,000	–	95,428	417,140	1,241,903	620,951 50	418,000	4,180
1814	357,830	–	15,454	77,270	1,460,575	561,687 50	357,830	3,578 30
1815	–	–	635	3,175	69,232	17,308		
1816	2,820,982	–	–	–	67,153	28,575 75	2,820,982	28,209 82
1817	3,948,400	–	–	–	1,215,567	607,783 50	3,948,400	39,484

1818	3,167,000	–	48,588	242,940	2,321,496	1,070,454 50	3,167,000	51,670
1819	2,671,000	–	51,723	258,615	2,352,000	1,140,000	2,671,000	26,710
1820	4,407,550	–	263,806	1,319,030	1,821,153	501,680 70	4,407,550	44,075 50
1821	389,000	–	41,089	189,325	2,709,160	825,762 45	389,000	3,890
1822	2,072,339	–	17,796	88,980	1,723,653	805,806 50	2,072,339	20,723 39
1833	–	–	14,485	72,425	2,152,000	895,550		
1824	1,262,000	–	19,910	93,200	3,504,954	1,752,477	1,262,000	12,620
1825	1,461,100	63,000	33,494	156,385	3,621,166	1,564,583	1,524,000	14,926
1826	1,517,425	234,000	18,829	92,245	4,004,180	2,002,090	1,751,425	16,344 25
1827	2,357,732	–	27,713	131,565	6,712,400	2,869,200	2,357,732	23,577 32
1828	2,260,624	606,000	28,029	140,145	3,302,200	1,575,600	2,866,624	25,636 24
1829	1,414,500	487,000	60,845	295,717 50	5,712,156	1,994,578	1,901,500	16,580
1830	1,711,500	–	130,891	643,105	6,514,800	2,495,400	1,711,500	17,115
1831	3,359,260	2,200	145,114	714,270	8,285,710	3,175,600	3,361,460	33,603 60
1832	2,362,000	–	161,887	798,435	6,604,500	2,579,000	2,362,000	23,620
1833	2,739,000	154,000	197,790	978,550	7,217,000	2,759,000	2,893,000	28,160
1834	1,855,100	120,000	849,539	3,954,270	8,813,004	3,415,002	1,975,100	19,151
1835	3,878,400	141,000	502,936	2,186,175	11,474,006	3,443,003	4,019,400	39,489
1836	2,111,000	398,000	1,101,133	4,135,700	10,109,200	3,606,100	2,509,000	23,100
1837	5,558,300	–	252,201	1,148,305	7,200,220	2,096,010	5,558,300	55,583
	75,871,102	7,440,713	4,968,526	$23,250,340	122,621,882	$48,835,192 90	83,311,815	$795,915 58

RECAPITULATION.

Periods.	Whole coinage in pieces.	Whole coinage in value.
1793 1794 1795 -	1,834,420	$453,541 80
1796	1,219,370	192,129 40
1797	1,095,165	125,524 29
1798	1,368,241	545,698 00
1799	1,365,681	645,907 68
1800	3,337,972	571,335 40
1801	1,571,390	510,956 37
1802	3,615,869	516,075 83
1803	2,780,830	370,698 53
1804	2,046,839	371,827 94
1805	2,260,361	333,239 48
1806	1,815,409	801,084 00
1807	2,731,345	1,044,595 96
1808	2,935,888	982,055 00
1809	2,861,834	884,752 53
1810	3,056,418	1,155,868 50
1811	1,649,570	1,108,740 95
1812	2,761,646	1,115,219 50
1813	1,755,331	1,102,271 50
1814	1,833,859	642,535 80
1815	69,867	20,483 00
1816	2,888,135	56.785 57
1817	5,163,967	647,267 50
1818	5,537,084	1,345,064 50
1819	5,074,723	1,425,325 00
1820	6,492,509	1,864.786 20
1821	3,139,249	1,018,977 45
1822	3,813,788	915,509 89
1823	2,166,485	967,975 00
1824	4,786,894	1,858,297 00
1825	5,178,760	1,735,894 00
1826	5,774,434	2,110,679 25
1827	9,097,845	3,024,342 32
1828	6,196,853	1,741,381 24
1829	7,674,501	2,306,875 50
1830	8,357,191	3,155,620 00
1831	11,792,284	3,923,473 60
1832	9,128,387	3,401,055 00
1833	10,307,790	3,765,710 00
1834	11,637,643	7,388,423 00
1835	15,996,342	5,668,667 00
1836	13,719,333	7,764,900 00
1837	13,010,721	3,299,898 00
Total -	210,902.223	72,881,448 48

APPROPRIATIONS FOR 1838.

[To accompany bill H. R. No. 224.]

DOCUMENTS

Explanatory of Items mentioned in the Civil and Diplomatic Appropriation Bill.

December 28, 1837.
Printed by order of the House of Representatives.

Department of State,
Washington, 11th December, 1837.

Sir: The fourth article of the convention between the United States and Spain provides that "on the request of the minister plenipotentiary of her Catholic Majesty at Washington, the Government of the United States will deliver to him, in six months after the exchange of the ratifications of the convention, a note or list of the claims of American citizens against the Government of Spain, specifying their amounts respectively; and three years afterwards, or sooner if possible, authentic copies of all the documents upon which the same may have been founded."

By an estimate received from the commissioner appointed under the act to carry that convention into effect, the amount that will be required to pay for making copies of the documents now on file in his office is stated to be $2,214 66.

As other documents may probably be placed on file in the office previous to the dissolution of the commission, which it may be necessary to have copied, I have the honor to request that an appropriation of three thousand dollars may be made to defray the expense of a compliance with the article of the convention referred to; and that the committee may name the rates at which the said copying shall be paid for—those usually paid by this Department being ten cents per hundred words for English, and fifteen cents per hundred words for a foreign language; whilst in the estimate referred to there is an addition to these rates of one-fourth thereof for collating the copy with the original; which rate, it is understood, has been allowed for that service at other offices.

I have the honor to be, sir,
Your obedient servant,
JOHN FORSYTH.

Hon. C. C. Cambreleng,
Chairman of the Committee of Ways and Means, H. Reps.

TREASURY DEPARTMENT,
December 22, 1837.

SIR: I transmit, for the consideration of the Committee of Ways and Means, the enclosed communication and estimates, received this day from the Director of the Mint at Philadelphia.

I remain, very respectfully,
Your obedient servant,
LEVI WOODBURY,
Secretary of the Treasury.

Hon. C. C. CAMBRELENG.

MINT OF THE UNITED STATES,
December 20, 1837.

SIR: The following detailed statement of my estimates for the Mint and its branches for 1838, is respectfully submitted, in reply to your request of the 18th instant, received this day.

1. MINT OF THE UNITED STATES AT PHILADELPHIA.

The appropriation for the year 1837, including an item of $20,000 for new machinery, was - - - - -	$101,800
On the 31st December, 1836, there remained a balance in hand of the appropriation for 1836, of - - - - -	18,550
The profits of the copper coinage of 1837, which become a part of our ordinary fund, by act of January 18, 1837, are fairly rated at - - - - - - -	10,000
The credits of profit and loss—that is, the deductions from deposites for the present year—will probably amount to -	6,000
Available funds for 1837 -	$136,350
The whole amount of expenditures, ordinary and extraordinary, within the year 1837, based upon what was paid in ten months, and inclusive of the wastage, is estimated at -	95,850
Probable balance December 31, 1837 -	$40,500

If the estimate for 1838 be made without respect to that balance, or to any sources of gain, we should be obliged to ask—

For salaries of officers and clerks - - - - -	$20,400
For wages of workmen - - - - - -	23,000
For wastage, supposing the coinage may be three and a half millions of dollars - - - - -	13,000
For incidental and contingent expenses, including iron, steel, lead, castings, copper, zinc, tallow, oil, chemical agents, melting-pots, crucibles, stationary, water-rent, and taxes -	26,500
For new machinery, viz: one ten-horse steam-engine for the coining presses, a steam coining-press, and sundry smaller articles - - - - - - - -	8,600
	$91,500

From this amount we deduct—

Probable balance of 1837	$40,500	
Probable gain from copper coinage	10,000	
Profit and loss	6,000	
		56,500
Leaving the amount asked of Congress		$35,000

which, with what we have, and shall have, from other sources, will be sufficient to cover the whole expense for 1837.

Upon that basis the following formal estimate is submitted, differing slightly from that sent on the 24th November, particularly in regard to the item for clerk in the Director's office, which is found necessary here, and has been approved by the President.

An estimate of the expenses of the Mint of the United States at Philadelphia, for the year 1838.

For salaries of officers, assistants, and clerks :		
The Director	$3,500	
The treasurer	2,000	
The chief coiner	2,000	
The assayer	2,000	
The melter and refiner	2,000	
The engraver	2,000	
The second engraver	1,500	
The assistant assayer	1,300	
Three clerks in the treasurer's office, two at $1,200 each and one at $1,000	3,400	
One clerk in the Director's office	700	
		$20,400
For compensation to laborers	-	14,600
Total	-	$35,000

2. Branch at New Orleans.

The estimate for this branch, transmitted on the 24th of November, was submitted to the officers at New Orleans, and approved by them. The heads of appropriation are :

1. For salaries of officers and clerks, (the amount fixed by law is asked for this item,) $12,900.

2. For compensation to laborers, $22,000. This was based upon the number limited by law, which is twenty, and an average of ninety dollars per month to each workman. The rate of wages in that city for workmen of the same class requires such an appropriation.

3. For incidental and contingent expenses, $27,100. In making this estimate respect was had to their probable wants, and to the enhanced price of materials at New Orleans. The wastage was assumed as proportionate to a coinage of three millions of dollars.

An estimate of the expenses of the branch Mint at New Orleans for the year 1838.

For salaries of officers and clerks:		
The superintendent - - - - -	$2,500	
The treasurer - - - - - -	2,000	
The coiner - - - - - - -	2,000	
The assayer - - - - - -	2,000	
The melter and refiner - - - -	2,000	
Two clerks, $1,200 each - - - -	2,400	
		$12,900
For compensation to laborers - - -	-	22,000
For incidental and contingent expenses:		
Wastage of gold and silver - - - -	$12,000	
Iron, steel, lead, castings, chemical agents, copper, zinc, oil, tallow, crucibles, melting-pots, and repairs	8,000	
Wood and coal for the steam-engine and furnaces and for the different offices - - -	6,000	
Stationary, water-rent, and taxes - - -	1,100	
		27,100
		$62,000

3. Branch Mint at Charlotte.

The estimate heretofore furnished for this branch was approved by the superintendent. It consists of three items:

1. For salaries of officers and clerks, $6,000; the amount fixed by law.
2. For compensation to laborers, $3,600. This allows an average of $60 per month to five workmen, the number limited by law.
3. For incidental and contingent expenses, $5,400. It is presumed there will be a coinage of half a million of dollars. Upon this basis we have calculated wastage and materials, having regard to the fact that most of the materials must be procured at a considerable distance from the location of the Mint.

An estimate of the expenses of the branch Mint at Charlotte for the year 1838.

For salaries of officers and clerk:		
The superintendent - - - - -	$2,000	
The assayer - - - - - -	1,500	
The coiner - - - - - -	1,500	
One clerk - - - - - -	1,000	
		$6,000
For compensation to laborers - - -	-	3,600

ESTIMATE—Continued.

For incidental and contingent expenses:		
Wastage of gold	$2,000	
Iron, steel, lead, castings, chemical agents, copper, zinc, oil, tallow, crucibles, melting-pots, and repairs	2,000	
Wood and coal for the steam-engine and furnaces and for the different offices	1,000	
Stationary and taxes	400	5,400
		$15,000

4. Branch at Dahlonega.

The estimate for this branch having been forwarded before the views of the superintendent in relation to it were received, some alterations are proposed, mainly in accordance with his suggestions.

1. For salaries of officers and clerk, the sum of $6,000 is asked, being the legal limit.

2. For compensation to laborers, $3,800. The number of workmen is limited to five; whose annual wages, agreeably to the arrangements made there, will amount nearly to that sum. It is understood that the wages of workmen of this class are high in the new settlement.

3. For incidental and contingent expenses, $4,000. This is deemed sufficient by the superintendent for the coming year, inasmuch as a stock of materials has been already procured from funds appropriated for the present year. The wastage is a liberal allowance for a coinage of half a million in gold.

4. For enclosing the Mint lot and for outbuildings, $7,500. In this item is included the expense of levelling the grounds, which is considered requisite to the completion of the establishment.

An estimate of the expenses of the branch Mint at Dahlonega, Georgia, for the year 1838.

For salaries of officers and clerk:		
The superintendent	$2,000	
The assayer	1,500	
The coiner	1,500	
One clerk	1,000	
		$6,000
For compensation to laborers		3,800
For incidental and contingent expenses:		
Wastage of gold	2,000	
Iron, steel, lead, castings, chemical agents, copper, zinc, oil, tallow, crucibles, melting-pots, and repairs	1,000	
Wood and coal for steam-engine and furnaces and for the different offices	1,000	
		4,000
For enclosing the Mint lot and for out-buildings		7,500
		21,300

The act of March 3d, 1835, establishing branches of the Mint of the United States, limits the number of "subordinate workmen and servants" to twenty for the New Orleans branch, and to five for each of the other branches. Now this is found to be the smallest number that can be employed as actual "workmen" in the essential operations of the Mint, and no provision has been made for door-keepers, watchmen, and firemen. I consider it matter of necessity that such assistants should be employed at the Mints; but the limit of the present law seems to be inoperative, and therefore I have not ventured to include their compensation in the above estimates. I would, however, most respectfully ask the attention of the Committee of Ways and Means to this subject, and would propose that an act be passed to this effect: "that there be employed, at the branches of the Mint of the United States, such number of workmen, attendants, and servants, as shall be judged necessary by the Director;" and, "that so much of the act entitled 'An act to establish branches of the Mint of the United States,' approved the third of March, 1835, as is inconsistent with the foregoing provision, be repealed."

I hope that the above statements will be found to contain all the information asked for by the Committee of Ways and Means.

I am, sir, very respectfully,
Your faithful servant,
R. M. PATTERSON, *Director*.

To Hon. Levi Woodbury,
Secretary of the Treasury.

Treasury Department, *December* 14, 1837.

Sir: I have the honor to submit to the consideration of the Committee of Ways and Means, the enclosed "estimate of the appropriations necessary to defray the expenses of the Territorial Government of Florida, for the year 1838," received this day at the Department from his excellency R. K. Call, Governor of the Territory.

I am, very respectfully,
Your obedient servant,
LEVI WOODBURY,
Secretary of the Treasury.

Hon. C. C. Cambreleng,
Chairman Com. Ways and Means, Ho. Reps.

Estimate of the appropriations necessary to defray the expenses of the Territorial Government of Florida for the year 1838.

For the pay and mileage of twenty-seven members of the Legislative Council - - - - - -	$5,086 00
For printing the laws and journals, and preparing marginal notes and index for the same - - - - -	810 00
For publication of the laws in three newspapers, as required by act of Congress - - - - - -	475 00
For manuscript copy of the laws for the printer - -	300 00
For distribution of the laws - - - - - -	125 00

1838

For compensation to the officers and clerks of the Mint, twenty thousand four hundred dollars;

For pay of laborers in the various departments of the Mint, and for contingent expenses, fourteen thousand six hundred dollars;

For compensation to the officers and clerk of the branch Mint at Charlotte, North Carolina, six thousand dollars;

For pay of laborers in the various departments of the same, three thousand six hundred dollars;

For wastage of gold and for contingent expenses of the same, five thousand four hundred dollars;

For renewing the roof of the Mint at Charlotte, North Carolina, two thousand dollars;

For compensation to the officers and clerk of the branch Mint at Dahlonega, Georgia, six thousand dollars;

For pay of laborers in the various departments of the same, three thousand eight hundred dollars;

For wastage of gold, and for contingent expenses of the same, four thousand dollars.

For enclosing the Mint lot, and for buildings, seven thousand five hundred dollars.

For compensation to the officers and clerks of the branch Mint at New Orleans, twelve thousand nine hundred dollars.

For pay of laborers in the various departments of the same, twenty-two thousand dollars.

For wastage of gold and silver, and for contingent expenses of the same, twenty-seven thousand one hundred dollars.

LAWS OF THE UNITED STATES.

ACTS OF A PUBLIC NATURE, PASSED AT THE THIRD SESSION OF THE TWENTY-FIFTH CONGRESS.—CONTINUED.

AN ACT making appropriations for the civil and diplomatic expenses of Government for the year eighteen hundred and thirty-nine.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, to be paid out of any unappropriated money in the Treasury, viz.

For compensation to the officers and clerks of the mint, twenty thousand four hundred dollars.

For pay of laborers in the various departments of the mint, and for contingent expenses, twenty-three thousand dollars.

For incidental and contingent expenses, including the wastage of gold and silver, fuel, materials, stationery, water, rent, and taxes, eighteen thousand three hundred dollars.

For new machinery, three thousand dollars.

For specimens of ores and coins to be reserved at the mint, one thousand dollars.

For compensation to the officers and clerk of the branch mint at Charlotte, North Carolina, six thousand dollars.

For pay of laborers in the various departments of the same, three thousand six hundred dollars.

For wastage of gold, and for contingent expenses of the same, five thousand one hundred dollars.

For compensation to the officers and clerk of the branch mint at Dahlonega, Georgia, six thousand dollars.

For pay of laborers in the various departments of the same, three thousand eight hundred dollars.

For wastage of gold, and for contingent expenses of the same, four thousand one hundred dollars.

For compensation to the officers and clerks of the branch mint at New Orleans, twelve thousand nine hundred dollars.

For pay of laborers in the various departments of the same, twenty-two thousand dollars.

For wastage of gold and silver, and for contingent expenses of the same, seventeen thousand one hundred dollars.

Requisitions made on

1 Compensation &c

12th March for	1.500
9 May	1500
14 Sep.	3.000
	6.000

2 Pay of Laborers

12 of March	1.000
9 May	1.000
1 July	600
14 Sep. . .	1000

3 wastage & Cont Ex

12th March	2.500
9 . May	1.100
1 Jul	500
14 Sep	1.000
	5.100

6000 Requisition made.

Extract from Act of 1840

1. Compn to Officers & clerk of Branch mint at Charlotte	6.000.
2 Pay of Labourers in var. departments of same .	3.500
3. For incidental Exp'ses	250
App.d 8th May 1840	$ 12.000
1. Requisition made for 16th May 1840	3.000
5 Aug	1500
2. do 16th May 1840 for	1.800
5 Aug	700
3 do 16th May 1840	1.200
5th Aug	300

[Public—No. 7.]

AN ACT making appropriations for the civil and diplomatic expenses of the Government for the year eighteen hundred and forty.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby appropriated, to be paid out of any unappropriated money in the Treasury, viz:

For compensation to the officers and clerks of the Mint, twenty thousand four hundred dollars;

For pay of laborers in the various departments of the Mint, twenty-three thousand dollars.

For incidental and contingent expenses, including the wastage of gold and silver, fuel, materials; stationery, water-rent, and taxes, sixteen thousand dollars;

For new machinery, three thousand dollars;

For specimens of ores and coins to be reserved at the Mint, one thousand dollars;

For compensation to the officers and clerk of the branch Mint at Charlotte, North Carolina, six thousand dollars;

For pay of laborers in the various departments of the same, three thousand five hundred dollars;

For wastage of gold, and for the contingent expenses of the same; two thousand five hundred dollars;

For compensation to the officers and clerk of the branch Mint at Dahlonega, Georgia; six thousand dollars;

For pay of laborers in the various departments of the same, three thousand five hundred dollars;

For wastage of gold, and for contingent expenses of the same, two thousand dollars;

For compensation to the officers and clerks of the branch Mint at New Orleans, twelve thousand nine hundred dollars;

For pay of laborers in the various departments of the same, twenty-two thousand dollars;

For wastage of gold and silver, and for contingent expenses of the same, seventeen thousand one hundred dollars;

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dred dollars;

For buildings and machinery for the branch Mint at Charlotte, North Carolina, being a balance due to the commissioner appointed to superintend the erection of the buildings, twelve dollars and twenty cents;

For discharging the balance due to the contractors for building the branch Mint at Dahlonega, ten thousand dollars;

R. M. T. HUNTER,
Speaker of the House of Representatives.

RH. M. JOHNSON,
Vice President of the United States, and President of the Senate.

Approved, May 8, 1840.

M. VAN BUREN.

[illegible] for the
Charlotte Branch
$12.000

Rec^d on
1 June . . . 6.000
13th aug 3.500

Extract from an act of Congress making appropriations for the Civil & diplomatic Expenses of the Govt. for 1841.

For compensation to Officers & clerk of the mint at C	6.000
For pay of labourers in the various depts of same	3.500
For wastage of Gold & for incident Expenses of same	2.500
	$ 12,000

Recd 8th March 1841. $ 2.500

Memorandum showing the sums appropriated by Congress at various times for the Br. Mint Charlotte N.C.

1838	17000,00
1839	14700,00
1840	12000,00
1841	12000,00

OUR SOUTHERN GOLD MINES.

The Southern papers announce a discovery in the art of extracting gold from the ore and separating it from the other metals with which it may be combined, which, if true to the extent stated, or any thing like it, must soon place the gold mines of the Southern States among the most productive that have been known. This discovery lies in the substitution of *smelting* for *washing*, and is thus stated in the Southern papers:

"SMELTING GOLD.—A process has been discovered in the South for smelting gold, which promises to be of immense importance to the owners of mines.

"At the Charlotte mine in North Carolina, by the *new smelting process*, they obtained from 124 bushels of ore:

600 dwts. gold, at 90 cents - -	$540
44 ounces silver, at $1 - -	44
1 ton of lead - - -	120
	$704

"This mine yielded by the washing process only from thirty to forty cents per bushel, and had been abandoned!"

Take this to be true, and here is a yield $540 of gold from a mass of ore which, under the old process, would only have yielded between $40 and $50 of that metal. There is also a yield of $44 of silver and a further yield of $120 of lead. Thus, under the new process, the quantity of gold obtained is about ten times the quantity obtainable under the former process; the amount of silver obtained is equal to the former amount of gold, and the amount of lead is three times the value of the former amount of gold. Thus, what was a gold mine only before, now becomes gold, silver, and lead; and the joint value of these two latter items, before nothing, now becomes four times the value of the original gold, while the gold itself increases ten-fold. Very opportunely, Congress has passed an act to authorize the Southern branch mints to coin silver change, i. e. twenty-five cents ten cent, and five cent pieces; so that the silver obtained under the new process will be coined on the spot, and enter into circulation in the country, instead of being sent to Philadelphia, never to return.

The high price of cotton, and consequently of labor, caused the Southern gold mines to be comparatively neglected for a few years; but the reduction in the price of this staple is having the natural effect of turning capital and labor back to the mines; and the wise legislation of Congress in the enactment of the gold bill of 1834, and in the establishment of branch mints in North Carolina and Georgia, will give them the aid and protection to which they are entitled, and with the advantage of the new smelting process, must make the gold region of the South rapidly revive from its temporary decline, and soon become the theatre of an

A Cord of Ore as
spoken of amongst
Miners in the Rocky Mt.
is about 7 Tons

Eng. & Mng. Jour.
pg. 402
Dec. 24/72

REPORT

ON THE

ESTABLISHMENT OF A MINT

IN THE

STATE OF NORTH CAROLINA.

RALEIGH:
PRINTED BY LAWRENCE & LEMAY,
Printers to the State.

1830.

REPORT.

The Select Committee, to whom was referred a resolution on the subject of establishing a branch of the United States' Mint in the Gold Region of North Carolina, have considered the same, and respectfully

REPORT:

That in review of the matters submitted to them, they have seen new cause to adure and bless the Ruler of the Universe, who duth not, as the rulers of earth do, dispense his favors and benefits with capricious partiality, but with foreseeing wisdom and compensating distribution. Different countries, like different individuals, possess each their distinguishing endowments and resources, upon the knowledge and developement of which depend, for the most part, individual or national prosperity and happiness. Nature, says the poet, gave tu the horse swiftness [illegible] foot, to the lion strength, to the fox cunning and to man prudence; yet there was reserved for woman, beauty—a gift not less than that of swiftness, of strength, of cunning or of prudence. In like manner, nature, in giving to one State harbours or noble rivers, has given commerce; to another, with dense population, manufactures; to another, with fertile soil, favorable climate and ready markets, she has given the various products of the earth: in one place corn, in one place cotton, and in another sugar. One State is fitted for grazing, a second has mines of salt, a third mines of coal and iron. Yet for North Carolina was reserved Gold; to which all the arts of peace and war and commerce itself are subservient.

The intrinsic and relative importance of her mines to North Carolina, must be the foundation and reason for adopting the resolution.

Your committee have, therefore, made such inquiries, and obtained such information, under these heads, as time and place would allow of: These inquiries, and their own reflections have led your committee to the conclusion, that the mining interests of North Carolina are certainly in no degree inferior to the great agricultural, planting, manufacturing or commercial interest of the other States. In no commercial, agricultural, or manufacturing speculation now open does it appear to your committee that a monied capital, not exceeding one hundred and fifty thousand dollars fur the whole State could have been invested as it has been in mining, so as to produce $500 000; which sum, there can be no doubt, if not more, has been obtained from the mines of North Carulina during the present year. This sum, too, has been obtained by the mere surplus labour of the country; not by labour withdrawn from any advantageous application Agriculture has not been more negelected in consequence of working mines, but more earnestly attended to, as is natural upon an increased demand and cash markets for grain and other productions of the farmer Sugar, cotton and rice, the great staples of the southern and southwestern States, are cultivated with little or no profit except where, from proximity to rivers, and unhealthiness of climate, white labour is precluded. The cottun planter, rice planter and sugar planter, therefore begin and carry on their establishments by means of slaves introduced into the State, or those purchased there, and free labour does not seem much promoted. Mining operatiuns not only afford profitable employment for any number of slaves, but hold out high rewards and a healthful occupation for any excess of free populatiun. The expenditure also of mining establishments is of such a nature, that it flows like blood throughout the universal system. The farmer, the smith, the carpenter, the stone cutter, the waggoner & the merchant—in short, nearly every profession is requisite and paid. North Carolina has been compared to Switzerland, and the comparison, when applied to the mountainous sections of our State, is strikingly just. This part of North Carolina, like Switzerland, is debarred from commerce by geographical position, and like Switzerland, is inhabited by a hardy, free and intelligent people. They, like the Swiss, finding no motive or reward of exertion at home, have hitherto emigrated; and, although they may not have become the mercenary ministers and victims of war, despotism and famine, yet as pioneers of new settlements or in populous cities, they have died far from the places of their nativity. The mines supply to Saxony want of commercial advantages, and it is mineral wealth which has caused many populous cities to grow upon bleak, barren and almost inaccessible mountains.

Already, and in the very infancy of the business, are the citizens of the State indebted to the mining interest for the restoration of the greatly depreciated currency of the country, to a sound and safe circulating medium. The bills of the banks of North Carolina, at a discount but three years since of more than 8 per cent. are now at par. That they continue at par depends upon mining success; for if any causes produce an abandonment of he mines, and golden harvests cease to be garnered up in the banks your ommittee can see no reason why the same embarrassments should not ecur.

If the mining interest of North Carolina is found not to be depreciated, ut enhanced, by a comparison in results with the gold mines of other counries—if she derive from her mines all the advantages which another counry derives from cultivating some great and cash staple, or from any manuacture whatever, then are the committee of opinion that our fellow citizens, n preferring their solicitation for the establishment of a mint near us, will resent themselves not as importunate and claimless petitioners, but as uitors asking for what they may expect in justice to obtain. For protectng the commercial interest of the commercial States, the General Governent despatches ambassadors, and liberally expends millions in forts and aval armaments. The manufacturing States are encouraged by high taffs, and the sugar planting interest is advanced by duties on sugars imorted. To fix the standard purity and to regulate the coinage of the preious metals in all particulars, is exclusively within the power of the Genral Government. No individual State participates in this right; so that, e the advantages of a coinage at home ever so great, or be the disadvanages of a distant one ever so sensibly felt, North Carolina cannot relieve erself by an effort of her own. The powers of the General Government especting the coin currency of the United States is not a divided right: it not implied or disputed, but express and in exclusion. North Carolina annot coin her own gold, as she might make her own roads and canals or lear her own harbours and rivers. She may erect light houses, but cannot stablish a mint. Else so heavy is the interest upon dead capital incurred y this State alone, that the produce of the mines would soon be impressed mong ourselves, and bear emblematically and literally the horn of plenty nstead of *Epluribus unum.*

The value of the gold from different mines is so various, and from want f means of detection adulteration has become so common, that gold bulon has for some time ceased to be considered as money. While in ingots cannot be estimated at a definite sum, but accounts must run upon inter est until a remittance and return from Philadelphia. In many instances where the sums are large, the season unfavorable and opportunities infrequent, there is a loss of full six months—seldom less than four. Even deposited in an office of the U. S. Bank, it does not become available funds; nor will the bank itself stop an interest account of another bank, or of an individual upon a deposite made, of bullion, before a statement is received from the mint. The amount of interest thus lost to the States of North Carolina and Georgia for the present year alone, upon what should have been *money*, and was not *money*, but unproductive material, is, as may be easily computed, very large. For succeeding years, in all probability, such loss will more than equal the interest upon the cost and current expenses of a mint.

It is taken for granted, that to establish and preserve a sound currency in any country, there must be in that country an amount of gold or silver of known value, proportionate to the paper money in circulation. Before the mines were opened, however, it was in silver coin alone, not in gold at a premium, that the banks of North Carolina could have pretended to pay their notes. But the transport of silver, especially to the upper districts, is so expensive and hazardous, and the exact price of dollars so unsettled, that when experiments were made to answer the incessant drain upon supplies obtained at heavy percentages, the attempt was abandoned, and bank directors sought to support their sinking credit by sundry ingenious expedients. It is believed that the books of the Salisbury Branch Bank contain accounts relating to the purchase and transport of dollars, which would furnish a strong and experimental illustration of what it must cost to keep on hand specie to answer the urgent demands of a small institution. Any given amount of the precious metals passes off imperceptibly, yet rapidly, by the thousand channels of speculating brokers, of artists, of merchants, of emigrants and of travellers; but the empty reservoirs experience no replenishing springs—no restoring showers. What are difficulties and losses to our citizens when money transactions are contracted, and in time of peace, will become ruin and impossibility as dealings are extended and during war.

Now your committee submit, with great confidence to the wisdom of the House, that the immediate conversion of gold bullion into money at home, will insure in a simple, yet effectual way, a constant and abiding specie deposite, abundantly adequate always to pay off any emission of bank paper which the exigencies of the country may require. They further feel assured that North Carolina, locally and circumstancially situated as she is, cannot in any other manner permanently effect an object so vitally important; and that all financial projects which do not result in this, will be found impracticable or extravagant. Taking the worst case, and admitting that gold coins may be speedily withdrawn—admitting even that they be received into the bank vaults hot, and that they should be drafted out before they were cool, still it is apparent they have answered their end and paid a debt. The bank may, and will be forthwith supplied afresh for each successive demand. So long as the State shall prudently imitate the policy of other nations, and forbear to touch the mining interest with the paralizing finger of taxation, and so long as she welcomes the coming in of foreign capital and skill, the replacing supply will be ceaseless. As in the order of the natural world, new generations of the golden eagle will take flight from their native hills throughout whatever time the care of the State be exercised to cherish, not to strangle, establishments so happily springing into birth.

Towards conducting an extensive gold or silver mining concern, proximity to the place where unproductive bullion may be converted into available cash, is of material consequence. This is especially the case where the money capitals of the country are small, and sums in hands of banks or individuals insufficient or not to be obtained for settling the current expenses of the mine. Under such circumstances the workers are forced to provide from a distance, and keep reserved large amounts, on which they of course lose interest, commissions and insurance. Besides this, they lose interest upon the bullion itself and cost of transport, which, were it immediately coined, would not only serve in payment for one occasion, but would naturally continue in circulation until bought up as any other article of merchandise, and an equivalent be substituted. It is also among the great benefits of mining establishments upon a large scale, that the labourers are usually paid off in cash at short intervals, and indebtedness thus avoided To facilitate this, Mexico has *six* provincial mints and one at the metropolis.

Your committee are further of opinion that, independent of direct and immediate advantages, there are collateral and consequential advantages, which North Carolina would derive from home coinage of her bullion It is well known that a great proportion of the gold now coined at the U. States' Mint, passes directly into the consumption of the arts. In fact, the impression of coinage serves only as an index of purity, and is read as if marked 22 carats. Your committee therefore think that the assay and coinage of our gold near where it is produced, would lead to gold leaf and wire manufactories, to fabrication of jewelry, and other uses of gold in the arts. Minor establishments of this sort, like work shops somewhat removed from the great cities, are very usual; and cheapness of living, health, light taxes and other advantages which North Carolina enjoys are much considered. Thus Geneva in Switzerland has small and tributary manufactories of watches and jewellery, and is herself the great manufactory for the Paris dealers. That the profit of manufacturing a good part of our own gold will eventually be retained in the State, there can be no doubt, if we judge from the rapid enlargement of old shops and the addition of new ones.

The importance of the discovery and working of the gold mines in North Carolina, is materially enhanced by the decrease, so alarming to other countries in the supply of the precious metals—a decrease so enormous as to seem almost incredible without well authenticated statements. The influence of this decrease is now lamentably felt throughout every country of Europe, in a higher or less degree. Your committee extract a few sentences from a recent publication, written to explain the causes of the distresses in England, and which has attracted much attention.

"The steadiest industry (says the author of the pamphlet referred to) can no longer ensure success. The best founded expectations end but in disappointment—the wisest schemes lead but to ruin. It is not one branch of industry alone that feels the pressure of the times. One manufacture is unsuccessful—all are equally borne down by one general oppression. Nor is this evil, though more acutely felt in England, peculiar to this country.—The industry of every quarter of the world attests its infliction. From the Neva to the Ganges, from the Mediterranean to the Pacific Ocean, its influence, lessened or exaggerated by the commercial systems of each country, acts in every region of the earth Effects (proceeds the writer) so universally felt, it would be unphilosophical to attribute to any but a universal cause, and none is adequate to produce them but the increased value of the precious metals."

An adjoined summary account of the annual supply of gold and silver is thus stated:

	Previous to 1810.	Subsequent to 1810.
Europe and Asia	$4.000 000	$5 000 000
Indian Archipelago	2 980 000	2 980 000
Africa	1 000 000	1,000 000
America	47 000,000	15 000,000
Total	54 980 000	23 980 000

Decrease of the *annual* supply since 1810. 31,000 000 dollars. amounting during the last nineteen years to an aggregate of 589 000 000 dollars.

But it is not alone this extraordinary *decrease* in the supply to which the rise in value of the precious metals is attributable Besides the decrease of supply, there has been a great increase in the demand for gold and silver since 1810, consequent in part upon the augmented consumption.

The number of gold and silver watches manufactured in France was, in 1789, 200,000, and in 1819 had increased to 300,000. At present it is stated at 400 000.

In Mr. Huskinson's speech of 18th May. 1830, it is stated that the duty upon wrought gold and silver had risen in net produce from less than £5.000 in 1824 to upwards of £105 000 in 1828—' a rise more than twenty fold, notwithstanding the greatly diminished supply from the mines, and the consequent constantly increasing value of the precious metals." A numerical statement of the actual supply and demand of the precious metals for the last nineteen years is stated as follows: The supply for these nineteen years being estimated at 23 980 000 annually making an aggregate of 455.980.000. Taking the metalic currency of the world at 3,000 000.000 of dollars, and estimating the wear and tear recoining. loss by shipwreck, and at 2 p. mille annually, it would in 19 years amount to $114.000 000

The increase of the absolute quantity which has become requisite since 1810, estimating at 6 per cent.	180,000 000
The chasm in circulation occasioned by withdrawing of paper money since 1815 and since filled up by gold and silver coin,	300,000,000
And finally, the consumption of the precious metals by artificers, &c at 30,000 000 dollars annually, amounts in nineteen years to	570 000 000
Total demand since 1810,	1,164.000 000
Deduct supply from mines,	455.620,000
The deficiency appears to have been	708,380 000

Your committee do not intend to enlarge upon the many ruinous consequences, which, already in Europe, and to some extent in the United States, have ensued from the well established deficiency of gold and silver to such an amount. It is sufficient for their present purpose to point out as one consequence of this decrease, that an enormous rise has of necessity taken place in the exchangeable value of the precious metals. The only source of restoration is the mines; and the period when they shall once more render their supply is the earliest looked in England, " for general success in commercial and industrious pursuits. lightened burdens and a favorable change in the condition of the productive classes." It is nevertheless anticipated " that the unsettled state both of Mexico and the South American States, must have the effect of keeping in abeyance for some time yet to come the full developement of mining industry in those countries." Your committee think it is acknowledged, that besides the rise in value of gold and silver jointly as shewn from the foregoing estimates, there is also a rise in the value of gold relatively to silver. This may be sensibly felt in North Carolina at no distant time, and when the wave which originates in the great commercial world shall have rolled itself progressively hither to beat upon our shores. Towards continuing the supply of what is expressively called the "world's money" North Carolina experimental, limited, and recent as the operations upon her mines have been, nevertheless contributes no inconsiderable item. The total produce from the much celebrated Ural mines in Russian Asia, from 1814 to 1824, has not exceeded according to Humboldt's estimate, 17 000 000 dollars, i. e. $1,700 000 annually. By the most recent accounts from Chili, the yearly produce of the mines is stated to be 190,000 dollars, including as would seem, silver as well as gold.

For the last nineteen years all Brazil is not estimated to have exceeded an annual average of 1,240 000 dollars. Peru, which, from 1752 to 1801, had yielded annually upwards of 2 000.000 dollars, by the last accounts produced nothing worth mention. By a report from the Executive government to New Grenada to Congress, it is boastingly stated that the mines in 1822, produced 1,270,000 dollars, as would appear, of silver and gold, and this amount has been since greatly diminished.

These estimates might be extended to the other sources from whence gold is derived, and go still further to shew that North Carolina, unobtrusive as she has hitherto been upon the subject of her mines, need not shun comparison with any gold mining country in the world. The half million of dollars obtained during the present year from the mines of this State, has been obtained, as is well known, under all the embarrassments and discouragements consequent upon new enterprises in a new country. The auxiliary resources of the country were not developed, and there were no miners, as in other countries a distinct profession. What has been done has been done under uncertainty and fear of results—even against the prejudices of a majority of our citizens. Yet have the establishments gone on increasing in numbers, in capital, and in returns. Indefinite fears of evil consequences which might follow gold mining have given place to experimental conviction of beneficial influence. Jealousy of monopoly is becoming ridiculous, and mining hazards are more correctly appreciated. Should a favouring, instead of smothering policy, continue to be extended to the mining interest, and correct views be attained of what are the true riches of the State, there is every promise that the start North Carolina has taken will enable her to leave behind all other gold mining countries in the race of prosperity and happiness.

Comparing the mining advantages North Carolina possesses over other countries, it is a principal and almost inestimable one that her mines are virgin and uninjured. In old mining countries, whose hidden treasures have been sought by "the laborious plunder" of ages, the veins pursued to a great depth, if not exhausted, or, as is most frequent, inundated with water, can be worked only at an enormously augmented expenditure. The outcrop of the bold auriferous veins of North Carolina are considered peculiar, insomuch that ores are obtained from the very surface in abundance, and value equalling those which in other mining countries are procured from deep shafts and expensive galleries. From all probability of famine, pestilen and desolating war, North Carolina i exempt, and no where is proper held by more secure tenure. In South America, on the other hand, a la traveller laments that never in any place "has destruction been more m chievously active, more complete, and more manifest than on the proper of the mining establishments. Their expensive amalgamation works ha been wantonly destroyed, their extensive mills have been plundered and d lapidated, their mines have crumbled in and filled with rubbish and wat and the arbitrary exactions of contending chieftains have reduced the p prietors to a state of beggary."

In situations for inexhaustible supplies of timber, and in facilities for pro ring and transporting every species of machinery, the North Carolina mi are unequalled. To a majority of the mines in South America and Mexi steam engines cannot possibly be conveyed; and could they be, fuel must wanting. At the Catorce Mines in Mexico, a moderate sized stick of timb for a stamping mill cost 600 dollars. To the Santa Ana Mines in Colu bia, now worked by a large English capital, nothing can be transport except upon the heads or shoulders of Indians. To even mules acce is impracticable. The price of labour is also an important item rath in favour of North Carolina. At Potosi, a miner gains 2 English shilling or about 42 cents, per day. At the Columbia mines, a skilful miner r ceives 1 dollar. The German & Italian laboring miners employed in Fran work 8 hours of 24, and are paid from 41 to 60 cents. At Newcastle, i England the wages are a guinea per week, with lodging and fire. Humbol states $1 12½ is paid in many parts of Mexico for only 6 hours labour of the 2 Many articles of great consumption are also cheaper in this than in othe mining countries.

Your committee are aware that many persons appreciate the importance of the mining interest in the abstract; but are disposed to postpone to some indefinite time any efforts to extend its beneficial effects. They, however, who neglect to make available, speedily and to the fullest extent, the invaluable treasures entrusted to them, appear to differ in no material respect from the unfaithful steward, who buried his talents instead of putting them to productive usefulness. It will probably be a century before the mines of N. C. can attain their highest yield. Much time must elapse before the construction of buildings, choice of officers and procuring of utensils and machinery for a Mint, are followed by an establishment in full operation. It is, therefore, that in extending encouragement and facilities to the mining interest in reasonable ways, and in the preliminary measures to make them most extensively beneficial in their influence, we are but planting a tree, under whose full spread shade our posterity will repose.

The committee, therefore, respectfully recommend to the House the adoption of the following resolutions:

Resolved, That our Senators and Representatives in Congress be requested to use all proper exertions to obtain the establishment of a branch of the Mint of the United States in the State of North Carolina.

Resolved, That the Governor transmit a copy of the foregoing resolution and report to each of our Senators and Representatives in Congress.

GIDEON GLENN, Chairman.

GEOLOGICAL REPORT

OF

PROFESSOR MITCHELL.

I shall not perhaps find a more appropriate introduction to this my last regular report to the Honorable Board of Agriculture, than what is furnished by the following remark of a distinguished French Philosopher (D'Aubisson) in relation to the progress and result of the investigations of the geology of England & Germany.

"What the most eminent mineralogists have done in a small "part of Germany in the course of half a century, a single individual (Mr. William Smith) has undertaken and accomplished for "the whole of England, and his labours alike beautiful in their result and astonishing from their magnitude, have led to the conclusion that England is regularly divided into beds or strata—that "the order of superposition is never inverted, and that the same "fossils are found in the same bed at great distances."

The object of this quotation is to shew, what in the judgment of men the best qualified to form an opinion upon the subject, is the amount of time and labour necessary to bring an undertaking like that to which this Report relates, to a successful conclusion, and that after the general survey of the geology and mineralogy of the State furnished by the preceding Reports, no very extensive results are to be expected from the investigations of a single year. Much remains to be done. England is a small fraction only larger than North Carolina. If the entire life of an individual could be spent upon the geology of that country, and half a century upon that of a part of Germany, without exhausting the subject, it may well be expected that there will remain many things unascertained in relation to the geology of this state. It is not my purpose to ask, nor do I wish any farther assistance in the prosecution of the business. The Board of Agriculture and the Legislature have been sufficiently liberal in their appropriations to this object. I will not however be neglected. Whatever portion of my time is not occupied by my duties at the University, will be zealously devoted to the geology and mineralogy of the State, and if the Board shall continue its annual publications, I hope to be able to furnish them every year with a paper, which though not very long nor very important, perhaps in its details may be thought worthy of being preserved.

A second visit to the Low Country has afforded additional evidence of the correctness of the views taken in a former Report, and more fully developed in the pages of the accompanying pamphlet, of the geological character of this portion of our state and the mode of its formation. New localities of Marle were noticed in a number of different places, especially in the banks of the Tar River, but of these it seems unnecessary to give a particular account. It would appear that the marle beds abound in every part of this district, either at the surface or a small depth below, so that no person need doubt that a careful search for them would be rewarded with their discovery, if not in his immediate vicinity, at least at no great distance. It remains for our agriculturists to ascertain by a few well conducted experiments, whether this substance will repay the labour of transferring it from the beds to their plantations. The Low Country is hardly entitled, in an economical view, to further examination. Fine clay, marle, shell-limestone and iron pyrites, are abundantly, as well as extensively distributed through it; but besides these, it does not appear to contain any valuable and scarcely any interesting minerals. To the scientific enquirer into the early history of our globe, and the revolutions it has undergone, it will long present an alluring field of research and discovery.

OF THE NORTH-WESTERN COUNTIES.

On the gold mines, the details that have been communicated in former publications of the Board, are sufficiently ample, except so far as matters of mere science are concerned. With reference to these, and with a view of correcting some of Mr. Rothe's blunders, I drew up a paper for one of the scientific journals, which I suppose to be in the press at this time, and some copies of which will be laid before the Board at their next meeting.

I shall proceed therefore, directly to an account of the counties of Ashe, Wilkes and Surry, which were examined with more or less accuracy, during the last summer. With the exception of an exceedingly narrow, broken, barren, unsettled and uninteresting strip along the western border of Ashe, adjacent to Tennessee, the rocks of these counties, are all primitive, granite, gneiss, mica-slate, gneissoid, hornblende rock, hornblende slate, and some chlorite and talcose rocks. The principal valuable mineral substance that has hitherto been discovered, or of which there are any considerable indications, is iron ore. I did hope to be able to draw lines along the map, indicating the distribution of the differ-the rocks through the country, with their boundaries, but found them at length so involved with each other, and alternating in so many different ways, that I was obliged to give it up as a hopeless undertaking. It is not a matter of much importance. The alternations referred to, are well exhibited on the road from Wilkesboro' to Ashe Court-House, especially in the descent to Reddie's River.

ASHE COUNTY.

I had expected to find this county resembling in geological character the district lying north of it in Virginia, and hoped therefore, that there might be a chance of meeting with those minerals, especially lead and gypsum, which occur lower down New River, either upon its banks or at no very great distance from it, but I soon ascertained it to be altogether different. As has been already mentioned, the whole county is primitive, with the exception of a narrow strip adjacent to Tennessee, and this is a collection of rocks through which the primitive gradually assumes the characters of the formations west of it, rather than one of those formations. An imperfect recent granite is found upon the Stone Mountain, at both of the points where the great roads cross, within the limits of Tennessee. The lead and gypsum of Virginia would of course be looked for in vain. The iron ores of Ashe are near the northern boundary of the county, on the waters of Little River, and those of the North Fork of New River, and whether we regard the ease with which they are wrought, or the excellence of the iron manufactured from them, are probably not surpassed by those of any other country.

The value of the iron ores of North-Carolina, depends upon the nature of the rock in which they occur, not less than upon the ore itself. Almost all those that are wrought, belong to the kind called shot-ore—that is, they consist of small crystals of iron ore, (generally magnetic) disseminated through a rock not differing, except in the circumstance of its containing this imbedded substance, from the common rocks of the country. The rock therefore goes either partly (the rest having been removed by pounding and washing) or wholly into the forge or furnace, along with the proper ore, and when there serves to stamp a peculiar character upon the metal produced. It enters into intimate union either with the lime intoduced as a flux (as in the furnace) or with a portion of the undecomposed oxide of iron, which appears in this case to perform the office of a flux, (as in the forge) is converted into cinder and flows off.

But the magnesian minerals (Soapstone, Chlorite, etc,) being exceedingly difficult of fusion, even with the aid of fluxes, require a large expenditure of coal for the reduction of the ore, nor is the metal obtained apt, after all, to be of a good quality.* This circumstance will always deprive the iron ore found at the place called the Bull Ruffin in Ashe, and indeed all that I met with in the southern part of the county, (some small specimens of loadstone found on George Wilson's land on the fork ridge excepted) of the value they might otherwise possess. But the characters of the ores on the North Fork of New River, are all favorable to the easy production of good iron. The ore itself appears to be a pure oxide—the rock in which it lies imbedded is gneiss, without any injurious ingredient—there is plenty of wood and water power. There are at present but two forges in operation in this part of the county; Col. Ballow's, and that belonging to Major Findlay and Col. Waugh. But it will be the fault of the persons to whom the ore beds belong, and of the workmen, if this district does not become the seat of a manufacture of iron, not surpassed for being converted into steel, or indeed for any other purpose, by any in the world. Why should not the people of the midland counties be supplied with this important article, directly by their fellow-citizens at the west? It is sometimes carried to Fayetteville and sold, and then re-transported to the interior.

Besides the magnetic oxide that is wrought, Ashe furnishes some other species of iron ore, especially the specular oxide, which is pretty common in the midland counties, and no where more abundant, as I believe, than in Chatham, where, though not in quantity sufficient to be manufactured into iron, very fine specimens may be had on the plantation of William Hardin, Esq. near Pittsborough. In Ashe, differing so much from the more common kind of iron ore in lustre and other characters, it was supposed to contain lead, antimony, or some other uncommon and valuable metal. It is a good ore of iron, but here as well as elsewhere, in the state where it occurs, the quantity is small. Brown Hæmatite is found on the land of Elisha Blevins, near the Virginia line, and the compact brown oxide of iron on that of Mr. Weaver, not far from the bank of New River. Of this last, which I find to contain a large portion of the black oxide of Manganese, mixed with the oxide of iron, a quantity had been raised with a view of extracting silver from it.

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* On the ridge opposite the Bull Ruffin, is an ancient excavation, having masses of Mica as large as the hand in the earth that has been thrown out. There is a similar excavation two miles north of Rutherfordton, and a third a little way S West of Franklin, in Haywood County. The appearances at each of the three places are the same. That near Franklin, is in a country difficult of access, and till within a few years occupied by the Indians. It is probable therefore that both that and the others, are the work of the aborigines, who either employed the glittering plates of this substance to ornament their persons, or expected to extract metal from it. Such places never fail to become objects of interest to the people of the neighborhood, who flatter themselves that a diligent and careful search, would bring to light something valuable.

On the land of Col. James Maxwell, is a copper mine, unluckily not rich enough to repay the expense of working it. It is on the side of a hill of mica slate and gneiss, facing the east and rising from the bed of one of the small tributaries of New River — The rocky strata run S. 40° west, and dip rapidly towards the south-east. Between the other veins or beds of rock, are those which contain the ore of copper, the green carbonate. Two drifts have been run 30 or 40 feet into the hill, for the purpose of exploring these veins. It is a good ore of copper, easily reduced, but found here as well as in other parts of the world, in small quantity only.

Ashe appears to be rich in mineral species—that is, in those crystalline forms and rare combinations of the chemical elements which mere mineralogists are so eager to collect into their cabinets, but its wealth in this particular will not be ascertained till some person resident in the county, shall embark in the business of exploring it, and continue in it for some years. The neighborhood of Joshua Coxe, near the mouth of Cranberry Creek, would probably afford him a richer harvest than any other. On Coxe's own land, are splendid specimens of Staurolite on the bank of the river. On Canada Richardson's land, the garnet is large, perfect and beautiful. On James Mulkey's, limpid quartz is obtained in large pieces, and Capt. Smith ~~gave~~ me a large and very perfect crystal of Red Oxide of Titanium, picked up, as he told me on James Dickson's land. Besides these, there are other interesting minerals.

Ashe presents more peculiarities than any other county in the state. It differs widely from the country below the mountains, exhibiting a number of objects that are calculated to interest an inhabitant of the lower and midland counties—who, if he has the capacity of receiving pleasure from an union of the grand and beautiful features of natural scenery, will not regret a few days spent (especially in that season of the year when the chesnut, linn and laurel are in bloom) amongst the mountains and vallies of Ashe, with a plain but kind and obliging people.*

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* The people of North-Carolina, are by no means aware of the number of wild and beautiful views that are within their reach along the great range of the Allegames, without ever crossing the state line. Some of those that present themselves on the road from Rutherfordton to Asheville, by the way of the Hickorynut Gap, are magnificent, the road itself is execrable, after all the labour that has been bestowed upon it. From Asheville to Franklin, in Haywood County, the road winds for 70 miles, through romantic vallies, and amongst lofty mountains, and at the end of his journey, the traveller will be as handsomely entertained at Mr Siler's on the banks of the Tennessee, as he could be in Raleigh.— If he has a curiosity to examine the modes of savage life, an easy day's ride will bring him to the Indian settlement on the Hiwassee

It is not merely in having a more uneven surface that this county differs from those below the ridge, but it is so much elevated above the rest of the state, (Buncombe and Haywood excepted, and it appears to be higher than either of those counties) as to have a different climate and vegetation, and different modes of culture. It is a body of high table land, having its upper surface studded with mountains. The seasons are four or five weeks later than in the central parts of the state—the winters intensely cold, and the summers barely warm enough to bring Indian corn to perfection. The grasses flourish wonderfully here. In many places it is only necessary to clear away the timber and scatter a little Timothy seed over the soil, and it is presently and permanently converted into a luxuriant meadow. With the aid of the gypsum of Virginia, fine fields of clover are easily created—the perfection which the Irish potatoe attains amongst the mountains is well known.

The county appears to have been intended by nature for a grazing country, for the pasturage of cattle and sheep, and though a good many cattle are driven from it every year, much of its surface is still in a state of nature, and with extensive forests overshadowing the soil and preventing the vigorous growth of those plants upon which they are fond of feeding, it is evident that the quantity of stock it can support under the present circumstances, is incomparably less than what it will maintain when the forests shall have been levelled and the hills and mountains have been converted into artificial pastures. Some judicious farmers are beginning to turn their attention more particularly to this object~~—a~~ by + are [illegible] course which would be inexpedient if they were on the other side of the ridge, but ~~is~~ wise and proper here. The effect of such measures must be to make room for a denser population, and prepare the way for the introduction of schools and other improvements, so that there can be no doubt that when Ashe becomes an old county, she will be much more wealthy and respectable, and hold a higher rank amongst her sister counties than now when the settlements have been ~~were~~ but recently made. No other county seems to posses in so high a degree, the means of ameliorating its condition through a succession of years. To this end, it would contribute greatly that the hunter habits should be more effectually laid aside. As the settlements advanced westward from the coast, the hunters kept retiring till they reached the Alleganies, where they made a stand and permitted the tide of emigration to flow past them into Tennessee, and now that the game is almost gone, they do not willingly turn themselves to the cultivation of the soil of a broken but fertile county. Patient, persevering industry, is too much confined to the females, whose habits in this respect are worthy of much praise.

Of the luxuries received from Ashe, none is more generally acceptable than the Cranberry—as pleasant a tart unquestionably as the world affords. It grows almost exclusively on the east side of New River in the glades and swamps lying between that stream and the Blue Ridge. The plant which produces it, is a small low vine that completely covers the soil with the branches and runners which it throws out in all directions. When loaded with fruit in a favorable year it presents a beautiful object to the eye, besides reminding us of the gladness with which it will animate the lover of good eating in a distant part of the country, when it shall have been suitably prepared for the table.

The circumstance of its flourishing almost exclusively on the north-western declivity of the Blue Ridge, is to be attributed partly to the characters of the soil and partly to the elevation and consequent moisture of the ground, for there can be no doubt that though it is a country of mountains, and there are high knobs far away to the westward, there is a gradual descent from the crest of the ridge to the warm vallies of Tennessee. Vegetation is earlier in the Watauga settlement, and corn ripens better there than in any other part of the county.

The geography of these western parts of the state as exhibited on the maps, is exceedingly defective. And yet in the course of a century at farthest, and it is to be hoped in less than half that time, they will be delineated with a degree of precision and accuracy which we shall find it difficult to attain in regard to the more level counties below the ridge. Many of the highest mountains, from the Virginia line quite down to the western extremity of Haywood, are bald, and would furnish admirable stations for the prosecution of a trigonometrical survey. If a base line were once run and transferred to the mountains, it would be easy to cover the whole country both beyond and immediately below the ridge, with a network of triangles, and fix every point with the most minute exactness. The Grandfather Mountain is distinctly seen from the White Top, which is within the Virginia line, and the Pilot from both of these. The Yellow Mountain and the Black Mountain of Buncombe, (this last probably overtopping the Grandfather himself, and the highest land between the White Hills of New-Hampshire and the Gulf of Mexico) would furnish the next stations, and after leaving these, there would be no difficulty in finding conspicuous summits quite down into the Indian territory.

The counties of Wilkes and Surry being unquestionably primitive throughout their whole extent, possess very little interest for the Geologist, nor do they appear to contain a great number of rare or valuable mineral species. A succession of beds of iron ore extends along the base of the Bushy Mountains in Wilkes, and a forge has been erected during the past summer for manufacturing iron from it. It is moderately rich, and will probably afford iron of a good quality, but inferior to that derived from the mines on the north fork of New River in Ashe. Other beds occur on the head waters of the Yadkin, but they labour under the same difficulty with those about the Bull Ruffin—the ore is imbedded in a magnesian rock.

No county is more favorably situated for the iron manufacture, if a sufficient amount of ore could be had than Surry. It has extensive tracts of waste land that can never be turned to any other object than the growing of wood for coal, a noble body of limestone in the centre of the county for fluxing the ore, but the ore itself, is unhappily wanting. A series of beds indeed extends through a great part of the county, beginning at its north-eastern corner and passing near the foot of the Pilot Mountain in a south-westerly direction. Four forges are supplied with ore from them. But the veins, though numerous, are generally feeble, not more than from a foot to three or four feet in thickness. Hutchins's, a few miles south of Rockford, which has been recently opened, and is the most powerful hitherto wrought, is seven feet in thickness. The ore is in general of a good quality, but sometimes contaminated with soapstone, which as has been already stated, renders it refractory, and it is not abundant enough at any point to justify the erection of a furnace, and taking advantage of the quarry of limestone that is just at hand.

On the land of David Walker, in the south-western part of the county, plumbago occurs of a good quality in nodules, in a ploughed field. It appears to be extensively distributed through the western counties—being found in Lincoln, Burke, Iredell, Wilkes, Surry, Stokes, and probably all the others where there are ancient primitive rocks. Its economical uses were detailed in a former Report.

Page.

decidedly preferred, pumpkins a valuable food for hogs, ten acres of pumpkins fatted 150 hogs, whilst they manured twelve acres of land, covering land with grass the best resource against washing, 92

Letter 24. From Col. Taylor, on the labour necessary for a farm of a given size, a description of his farm and the nature of its soils, his experiments continued to prove the meadow oat grass to be highly valuable, his resources for manuring and the number of acres annually manured, the size of his fields or shifts, the quantity of corn and wheat made to the acre, his shifts are laid down in grass, the kinds of grass cultivated, &c. 94

Letter 25. From Josiah Quincy, of Boston, Mass. on the use of the Stercorary for making manure, with remarks on the best materials for making the same, 95

Letter 26 From William Painter, of Delaware county, Pennsylvania, on the best modes of improving *exhausted lands*, containing remarks on the proper division of fields and rotation of crops, the use of lime as a manure, mode of cultivating Indian corn, means successfully used for destroying the cut worm in young corn, the great value of the hoe-harrow in working corn, mode of laying down land to grass and feeding stock, &c. 97

Letter 27. From John Adlum, near Georgetown, D. C. on the making of wine and profits of a Vineyard. 99

Professor Mitchell's Report of the Geology of the State. 101

David Sands, Harford
Co. says this should be a
date 1833 or 1834

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inued.

APPOINTMENTS BY THE PRESIDENT.

Legation of the United States at Paris.

HORACE C. CAMMACK, to be Treasurer of the Branch Mint of the United States at New Orleans.

JOSEPH M. KENNEDY, to be Superintendent of the Branch Mint of the United States at New Orleans.

JOHN L. RIDDEL, to be Melter and Refiner at the same Mint.

PHILOS B. TYLER, to be Coiner at the same Mint.

to be Solicitor of the

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tion of 4,815 dollars.

Extracts from a Work by GODFREY T. VIGNE, ESQ. *of Lincoln's Inn, Barrister at Law.—Published in April* 1832, *and entitled* SIX MONTHS IN AMERICA.

"It is now about thirty years since gold was discovered in North Carolina; it was found in the sand and gravel of different water-courses, first in Cabarras county, soon afterwards in a county of Montgomery in that state. Until within a few years past, the process of washing for gold, was principally confined to the two counties just named. The greater portion of the gold thus procured was found in small pieces, varying in size from one pennyweight down to particles of extreme minuteness: at most of the mines, however, it is not uncommon to find pieces of a much larger size; for example at Cabarras, a single piece has been found weighing twenty-eight pounds avoirdupoise, besides several other pieces varying from four to sixteen pounds.

The proprietor of the same mine affirms that about a hundred pounds avoirdupoise have been found in pieces about one pound in weight; these large pieces, however, compose but a small portion of the whole product of the mines. These discoveries have been chiefly made in or near beds of streams; but in some instances *deposits of considerable extent have been found on the sides and tops of hills.*

It was not, however, until about six years ago, that the gold mines, properly speaking, were discovered in North

Carolina, that is, gold in regular, well defined veins. This discovery like that of the alluvial deposits, was in some measure accidental. A person, while washing the sand and gravel of a small rivulet for gold in Montgomery County, observed that he could never find it beyond a certain spot in ascending the stream; but at the point where the gold seemed to cease, he discovered a quartz vein running into the hill on one side of the channel, and at right angles with the course of the rivulet. Having frequently taken up out of the bed of the stream, pieces of quartz with bits of gold attached to them, he came to the conclusion that the gold found scattered below, must have come out of the vein of quartz, and he determined to pursue it into the hill. He had done so but for a few feet, when he struck a beautiful deposit of the metal in a matrix of quartz and subsequently another in carbonate of lime, in following this vein about thirty or forty feet longitudinally, and at a depth of not more than fifteen or eighteen feet, he found a succession of what are technically termed nests, from which he took out more than 15,000 dwts. of virgin gold. This discovery of the metal in regular veins, presented the subject in a new and interesting point of view: and directed a search for gold among the hills and high grounds, particularly for veins traversing the earth.

In the course of the summer, after the development of Barringer's mine, some valuable mines were discovered in Mecklenburgh county. The product of these, worked in the rudest manner, without skill or capital, was so great as to excite general notice and stimulated the land-owners in that section to search for these hidden treasures. The mines now began to attract the attention of the public: and several persons of enterprize, and some capital, repaired to the spot. Some of them made investments, began to erect machinery, and worked the veins with system and regularity. The success of the first adventurers in this new enterprise was such, that for a time the attention of every body who sought to engage in the mining business, was exclusively turned towards Mecklenburgh county. The consequence was, a constant search for gold was kept up in that county, and not unattended with success, as many very promising veins were discovered. These Mecklenburgh mines were the first that attracted attention; and the first that were examined and worked with skill and management. *They were of course*

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greatly in advance of every other part of the region, and the products have been greater in proportion to the labour, capital, and skill that have been applied to them.

While progress has been thus making in opening veins, and in ascertaining their situations, some valuable discoveries of stream deposits occurred in a section of the state of North Carolina, hitherto not suspected to be within the range of the gold region. In Burke county, one of the most mountainous of the state, at one, two, or more feet under the surface, a layer of sand and gravel is found varying from a few inches, sometimes to more than a foot in thickness; in this layer the virgin gold is found, generally in small particles about the size of a pin's head, and very often as large as a grain of corn; it is separated, and collected from the accompanying matter, by washing. Water is abundant; and the absence of clay and adhesive matter in the auriferous layer, makes the process of washing exceedingly easy. A number of these deposits have already been found, and some of them have proved to be very productive.

In short the veins and places of deposit are very numerous, and scattered over the whole country, with a few exceptions; and the gold which is produced finds a market so readily, that it is difficult to give a very correct estimate of the product of mines of the Carolinas, Virginia, and Georgia; but *it was said to amount to* 500,000 *dollars in* 1830, *from North Carolina alone.* During that year, nearly the whole gold coinage of the United States' mint, was from native gold. The coinage was 643,105 dollars in gold coin: of this, 125,000 was derived from Mexico, South America, and the West Indies: 19,000 from Africa, 466,000 *from the gold region of the United States*, and about 33,000 from sources not ascertained. Of the gold of the United States above mentioned, 24,000 may be stated to have come from Virginia, 204,000 from North Carolina, 26,000 from South Carolina, and 212,000 from Georgia. The purity of the gold from the United States is said to be greater than that of the gold of Mexico or the Brazils.

That there will be an increase in the products of the mines every succeeding year admits of very little doubt, when the gradual enlargement of the gold region, extending through Virginia, North and South Carolina, and Georgia—the number of persons turning their attention to the business—the mills that are now erecting in various places—the improvements in the mode of working and general management, are made the subject of consideration,

The improvements in machinery have been considerable within the last few years: it is believed, however, that as yet, they are far from being perfect. The defects in the present mode of extracting the gold are well known to those most extensively engaged in the business: and some of the miners even at this time, are turning their attention towards the introduction of other methods, promising more economy and greater results.

The auriferous veins of North Carolina and Virginia have not yet been sufficiently developed. As yet not a single shaft in the whole range of country (except at the Charlotte Mine near a small town of that name) has been carried down to the depth of one hundred feet.—Seventy to eighty feet is the greatest depth yet attained: and thirty feet is more than an average on the main excavation: as far, however, as these experiments have gone, they furnish no reason to doubt the durability of the mines: for thus far, the well-defined veins not only retain their first size, but, in many cases become larger, and more often than otherwise improve in richness.

Reviewing all that has been said on the subject, it will be seen that the whole business is yet in its infancy; and the only cause for wonder is, that so much has been done in so short a time. Ignorance and prejudice were to be overcome, and ridicule was liberally bestowed on the few who engaged in the business. If the work proceed as rapidly for some years to come, as it has for the three years past, the changes in the appearance of things will become very striking.

When the cheapness of obtaining the timber necessary for machinery, the certainty of labour, *and the security of property under such a government as that of the United States*, are deeply considered; these mines might be far more worth the attention of an English Company than many a scheme in which English Capital is already embarked. Applications to Government for Charters will most probably be more numerous in every succeeding year. The Capital required to form a Company would not, I was informed, exceed £40,000 or £50,000."

LOVE AND BARTON, PRINTERS, MANCHESTER.

[Donation relative to
1 of North Carolina
can Journal of
& arts" for 1825
Professor Olstead
Almanac for 1832
- a page 226.
ment p. 182

Almanac
: page 129

To the Commissioner of the P

Sir: The expense of laying
avenue, 6 feet wide, elevated 4
avenue, the sides rounded or slo
720 feet of flagging, extra size, a
180 yards of McAdamizing, at 2

The expense of laying a flag f
itol enclosure, and paving up to
on each side, will be $100.
Respectfully submitted.

For Information relative to
Gold Mines of North Carolina
See "American Journal of
Science & arts" for 1825
article by Professor Olstead

American Almanac for 1832
art. N° Cª page 226.
and art mint p. 182

American Almanac
for 1834 page 129

Gold mines in the vicinity of the Charlotte mint.

King's Mountain (S.o C.a York district)
value of Gold pr assay. 941. 944
in deposite 42.
Fair Forest Mine, Union dist: S.o C.a

Hale's mine . . same
in deposit 55. . 903.

Blackman's mine - same

Belk's mine - same
in dep.s 49.59 . 761. 762

McLure's mine . Lincoln C.o N C

J D Conoly's, same

Brackett vein Burke C.o N C
in dep.s 9. 74. 42. 842. 851
806

Brindle vein same

Reed's mine,	Cabarrus Co. N.C.
see Sept. No. 66	943 . 951
Phifer's mine	, Mecklenburg Co.
See sep 16	821
John Lawson	same
Saml. Howie	Same
see sep No 3	772
Lewis mine	Same
Folger "	Same
Patterson	Same
Smartt "	same
Harris	Same
Simonds	Same
Wolfs	Same
Orrs	Same

MINT OF THE UNITED STATES, AND BRANCHES.

LETTER

FROM

THE SECRETARY OF THE TREASURY,

TRANSMITTING

The information required by a resolution of the House of Representatives of the 5th instant, in relation to the Principal Mint of the United States and its Branches, &c.

March 23, 1838.
Read, and laid upon the table.

Treasury Department, *March* 23, 1838.

Sir: In answer to the resolution of the House of Representatives of the 5th instant, requiring the Secretary of the Treasury to report to the House "the cost of erecting and establishing the principal Mint and its branches, including buildings, fixtures, and apparatus, the salaries and expenses of the different officers, the amount expended in the purchase of bullion, the loss arising from wastage, and all other expenses, and the average length of time it requires to coin at the principal Mint all the bullion with which it can be furnished; and further, what amount of coin has been struck at the several branch mints since their organization," I have the honor to transmit herewith a communication received from the Director of the Mint at Philadelphia, which, it is believed, contains all the information called for by the resolution which it is in the power of the Department to furnish.

I have the honor to remain, very respectfully, your obedient servant,
LEVI WOODBURY,
Secretary of the Treasury.

The Hon. Speaker
of the House of Representatives.

Mint of the United States,
Philadelphia, March 20, 1838.

Sir: I had the honor to receive, on the 8th instant, your letter asking my attention to a resolution of the House of Representatives of the United States passed March 5, 1838, as follows:

"*Resolved,* That the Secretary of the Treasury report to this House the

Thomas Allen, print.

cost of erecting and establishing the principal Mint and its branches, including buildings, fixtures, and apparatus; the salaries and expenses of the different officers; the amount expended in the purchase of bullion; the loss arising from wastage, and all other expenses; and the average length of time it requires to coin at the principal Mint all the bullion with which it can be furnished; and further, what amount of coin has been struck at the several branch mints since their organization."

To enable you to give the information called for in this resolution, the following statements are now respectfully submitted.

I. *Mint of the United States, Philadelphia.*

1. "Cost of buildings, fixtures, and apparatus."

The cost of the edifice, machinery, and fixtures, was -	$173,390
Ground, enclosure, paving, &c. - - - -	35,840
	$209,230

This amount does not include expenditures made under special appropriations for the years 1836 and 1837, for milling and coining by steam power; and for extensive improvements in the assaying, melting, and parting rooms, and machine-shops, amounting to $28,270.

It may be proper to mention that the Mint building is on the best street in the city, is of large dimensions, with the whole exterior of marble, and two Ionic porticoes; and that the machinery and apparatus are of the best construction. The cost must therefore be considered as very moderate. The new mint lately erected by the British India Government at Calcutta, cost 24 lacs of rupees, or about $1,138,000.

2. "Salaries and expenses of the different officers."

The Director receives per annum, - - - -	$3,500
The treasurer, - - - - - -	2,000
The chief coiner, - - - - - -	2,000
The assayer, - - - - - -	2,000
The melter and refiner, - - - - -	2,000
The engraver, - - - - - -	2,000
The second engraver, - - - - -	1,500
The assistant assayer, - - - - -	1,300
The treasurer's clerk, - - - - -	1,200
The book-keeper, - - - - - -	1,000
The clerk of the weighing-room, - - - -	1,200
The Director's clerk, - - - - -	700
	$20,400

No expenses are allowed, beyond the above sums, to any officer, assistant, or clerk, for the performance of his duties.

3. "Amount expended in the purchase of bullion."

As all the gold and silver brought to the Mint is purchased at the nett Mint price, there is no expense, properly so called, incurred on this account.

A transfer was made to the Mint by Treasury drafts, of one million of dollars, for the purchase of bullion, of which $600,000 was on the Bank of America in New York, and $400,000 on the Girard Bank in Philadelphia. With these amounts, the banks were instructed to procure bullion for the Mint, and to deliver it there at the proper Mint value. It gives me pleasure to state that, notwithstanding the difficulties presented by the suspension of specie payments in May last, both these banks have performed their engagements faithfully; the whole amounts of their respective deposites having been paid to the Mint in gold and silver.

The system of purchasing bullion at the Mint commenced on the 4th of April last. From that time to the close of the past month, the amount purchased was,

In gold, - - - - - -	$647,900
In silver, - - - - - -	1,405,650
	$2,053,550

4. "The loss from wastage, and all other expenses."

Under this head, I presume it is intended to embrace the whole cost of maintaing the Mint establishment at Philadelphia, exclusive of the expenditures already included under the first head for the edifice and machinery. To make the report on this subject as explicit and comprehensive as possible, I have caused the following table to be prepared, exhibiting for the past ten years, 1. The allowance for wastage in all the operations within each year. 2. The amount of silver used in alloy of gold coin. 3. The sum of ordinary expenses, including salaries of officers, wages of workmen, and materials of every kind. 4. The sum of these sources of expense to the Government. 5. The gain by deductions from deposites. 6. The gain on copper coinage. 7. The sum of these sources of gain to the Government. 8. The difference, being the actual cost of maintaining the establishment. 9. The whole amount of coinage, in pieces, for each year. 10. The whole amount of coinage, in value, for each year. 11. The average cost of coining one hundred dollars, of promiscuous denominations of coin. 12. The average cost of coining one hundred pieces, of promiscuous denominations.

Table showing the wastage and other expenses of the Mint Establishment at Philadelphia, from the year 1828 *to* 1837, *both inclusive.*

Year.	Wastage.	Value of silver used for alloy of gold.	Ordinary expenses.	Sum of expenses.	Gain by deductions from deposites.	Gain on copper coinage.	Sum of gains.	Nett expense to the Government.	Amount of coinage in pieces.	Amount of coinage in value.	Average cost of coining 100 dollars.	Average cost of coining 100 pieces. Cts.
1828	$3,664	–	$25,679	$29,343	$3,660	$4,470	$8,130	$21,213	6,196,853	$1,741,381	$1 22	34
1829	6,169	–	30,363	36,532	6,725	3,587	10,312	26,220	7,674,501	2,306,875	1 14	34
1830	7,491	–	31,217	38,708	9,204	5,228	14,432	24,276	8,357,191	3,155,620	77	29
1831	11,723	–	40,056	51,779	9,712	7,963	17,675	34,104	11,792,284	3,923,474	87	29
1832	9,873	–	43,545	53,418	6,120	11,700	17,820	35,598	9,128,587	3,401,055	1 05	39
1833	10,953	–	42,117	53,070	3,906	3,203	7,109	45,961	10,307,790	3,765,710	1 22	45
1834	22,557	$912	55,497	78,966	6,432	9,912	16,344	62,622	11,637,643	7,388,423	85	54
1835	18,397	645	58,463	77,505	8,180	6,337	14,517	62,988	15,996,342	5,668,667	1 11	39
1836	21,748	2,679	58,056	82,483	5,415	5,583	10,998	71,485	13,719,333	7,764,900	92	52
1837	8,086	441	65,294	73,821	6,664	12,073	18,737	55,084	13,010,721	3,299,898	1 67	42
	120,661	4,677	450,287	575,625	66,018	70,056	136,074	439,551	107,821,245	42,416,003	1 04	41

This table presents some apparent anomalies which require explanation. Thus, the cost of coinage, per cent., in 1836, is much less than in 1837; but it will be observed that the whole value coined in the former year was more than double that in the latter, while the number of pieces struck, to which the labor is nearly proportional, was almost the same; so that, in fact, the cost of striking 100 pieces was less in the latter year. Besides, as the expense of superintendence is the same, and even that of wages can vary but little while the Mint is kept on the same scale, the cost of coinage, per cent., will always be less the greater the amount that is coined. In the interval included in the above table, the Mint was removed from its former location, where it was on a very limited scale, to the present; and in the same interval wages have risen considerably, so that the table does not exhibit what would now be the cost per cent. of coining different annual amounts. To show this, an estimate has been carefully made, of which the results are exhibited in the following table.

In constructing this table, the extremes of two millions and twelve millions of dollars are taken, because it is not probable that the coinage will fall below the former sum, and the capacity of the Mint is sufficient for the latter. It is assumed that the present force of the Mint must be maintained for any amount of coinage up to six millions of dollars; after which, an addition is made for extra labor equal to 900 dollars per million. It is also supposed that the coinage shall be half in gold and half in silver; and that there shall be an average of two and a half pieces to every dollar in value, which would make an abundant proportion of small coins. The contingent expenses are estimated to increase in proportion to the coinage, except in the material item of fuel for the steam-engine and annealing furnaces, and in some other inferior charges of a permanent kind. The loss by wastage, the cost of silver alloy, and the gain on deductions, are also proportioned to the amount of bullion wrought. One other element in the estimate, is the gain on copper coinage. In 1837 it amounted to $12,000; but, as the demand for cents was unusual, it is here rated at $10,000, as an ordinary annual gain. This would correspond with a coinage of $42,000, or 4,200,000 pieces, which is not taken into account in giving the sum of the coinage as mentioned above. The estimate can, of course, only be considered as affording a fair approximation to the true cost, and is made without reference to unusual contingencies.

Table showing the estimated cost of coining different annual amounts, at the Mint at Philadelphia.

Annual coinage in dollars.	Nett expense to the Government.	Nett cost of coining $100.
2,000,000	$48,059	$2 40
3,000,000	53,315	1 78
4,000,000	58,568	1 46
5,000,000	63,824	1 28
6,000,000	69,078	1 15
7,000,000	75,234	1 07
8,000,000	81,388	1 02
9,000,000	87,543	97
10,000,000	93,697	94
11,000,000	99,852	91
12,000,000	106,007	88

I have no means of comparing the cost of coinage at the Philadelphia mint, with the cost at the mints of other countries, except the charges for coinage which are made at those mints to depositors of bullion. At the mints of France, the depositor is subjected to a *rétênue* or *toll* of one and a half per cent. on silver, and two-thirds per cent. on gold, being an average of one and eight-hundredths per cent., supposing, as has been done in the above table, equal values coined of the two metals. At the British mint, no charge is now made for the coinage of gold, but the expenses of fabrication are borne by a seigniorage on the silver coins, which is estimated as equal to six per cent., but which, according to our legal ratio of value of gold and silver, would amount to nearly twelve per cent. At the British India mints, a deduction is made from the deposites, as a charge for coinage, of two per cent., both for gold and silver; and if the coins are required in halves or quarters, one per cent. additional duty is levied. If these charges correspond, as we must presume they do, to the cost of fabrication, it will be seen that the coinage at the Philadelphia mint, when fully employed, is comparatively very economical.

5. "Average length of time it requires to coin, at the principal Mint, all the bullion with which it can be furnished."

This inquiry involves more of explanation than of statistics. The greatest amount ever furnished to the Mint for coinage in one year, was $7,764,900, and a considerable portion of this was gold, introduced for the payment of the French indemnity. The present arrangements and force of the Mint are doubtless equal to a coinage of twelve millions of dollars annually, half in gold and half in silver, of promiscuous denominations, and with a due proportion of copper coinage. To do this amount of work, however, it is necessary that the Mint should be constantly employed, which can never be the case unless it have a stock of bullion on hand, independent of that brought from time to time, irregularly, by depositors. Hence arose the necessity of the Government deposite at the Mint, authorized by the act of January 18, 1837. With this, the Mint has been

enabled to be always beforehand with its supply of coins, and to pay all depositors as soon as the assayer has had time to ascertain the value of their bullion—this bullion, in fact, being purchased by the Mint. The largest parcel brought to us since we commenced this system, amounting to $100,400, was cashed on the third day after its deposite. The capacity of the Mint to cash deposites promptly, may be further understood from the fact that, at the commencement of the present year, we had $340,200 in gold coins, and $529,600 in silver coins, on hand, for that purpose.

II. *Branch Mint at New Orleans.*

1. "Cost of buildings and ground, machinery and fixtures."

We are not fully informed here, in regard to this item of inquiry. The ground, which is a valuable square on the river, was presented to Government by the city of New Orleans. The contract price for putting up the edifice, exclusive of one wing, of out buildings, and of enclosing the lot, was $182,000. The amount of expenses incurred here, for machinery, fixtures, tools, and materials, to enable that branch to commence operations, is $63,950; the two sums making $245,950. The remaining wing is nearly completed, and the enclosing is in progress, but their cost has not been communicated to me. The various appropriations made prior to the present session of Congress to meet the expenses under this head of inquiry, amount to $312,000.

The building and machinery for the New Orleans mint are upon a scale equal to that of the principal Mint, at Philadelphia.

2. "Salaries and expenses of officers."

The superintendent receives, per annum	$2,500
The treasurer	2,000
The coiner	2,000
The assayer	2,000
The melter and refiner	2,000
Two clerks, at $1,200 each	2,400
	$12,900

No allowance is made beyond the salaries specified.

This branch received its first deposites on the 7th instant, and began operations in the assaying and melting departments on the 8th. No coins had been struck at the date of my last communication from the superintendent.

III. *Branch Mint at Charlotte, North Carolina.*

1. "Cost of buildings and ground, machinery and fixtures."

The contract price for the mint edifice was $29,800. The expenses incurred here, in fitting out the establishment, amount to $22,150. Of the other expenditures under this head, I have not exact information; but it may be sufficient to state that the appropriations under it, made prior to the present session of Congress, amount to $56,000.

2. "Salaries and expenses of officers."

The superintendent receives, per annum	$2,000
The assayer	1,500

The coiner	1,500
One clerk	1,000
	$6,000

No allowance is made beyond the salaries specified.

3. "The amount expended in the purchase of bullion."

The deposite of bullion at this branch commenced on the 4th of December last; from which date until the 28th of February there was received 2,721 ounces, equal to about $44,000. Part of this was purchased on account of the Government, out of a fund of $30,000, provided for the purpose at the Philadelphia Mint, where the payments were made. It is contemplated to continue this operation until the Charlotte mint shall have a supply of coins on hand equal to $30,000, to enable them to make, thenceforward, prompt payments, on the spot, to their depositors.

In consequence of unforeseen difficulties, this mint had not commenced coining at the date of my last advices.

IV. *Branch Mint at Dahlonega, Georgia.*

1. "Cost of buildings and ground, machinery and fixtures."

The contract price for the mint edifice was $33,450. The expenses incurred here, in fitting out the establishment, amount to $21,450. The various appropriations, under these heads, made prior to the present session of Congress, amount to $59,000; but we have no precise information here as to the further details of expenditure.

2. "Salaries and expenses of officers."

The superintendent receives, per annum	$2,000
The assayer	1,500
The coiner	1,500
One clerk	1,000
	$6,000

No allowance is made beyond the salaries specified.

3. "Amount expended in the purchase of bullion."

The first deposites were made at this branch on the 12th of February, but I am not informed as to the amount that has been received. It is intended to make with this mint the same arrangement for the purchase of bullion as that made with the mint at Charlotte.

The coinage has not yet commenced at this mint. My information from the several branches shows, however, that they are all on the point of entering into full operation.

Very respectfully, your faithful servant,

R. M. PATTERSON,
Director of the Mint.

To Hon. Levi Woodbury,
Secretary of the Treasury.

Nov. 10th 1824

REPORT.

By appointment of the President of the Board of Agriculture, in pursuance of an act of the General Assembly, passed at the Session of 1823, I have commenced a Geological Survey of the State, and respectfully submit to the Board the following Report.

I beg leave to premise, that my other duties and engagements have allowed me but little time to devote to the survey; and the same is so likely to be the case hereafter, that I have felt it necessary to spread my observations over a greater space, than is compatible with the accomplishment of an accurate and minute scientific survey. But I have understood it to be the purpose and wish of the Board, that the Geologist should direct his attention chiefly to such objects as were of practical utility; that he should search out and describe whatever substances the Mineral Kingdom affords within our State, which either are, or may be rendered, subservient to the arts and purposes of life; and that he should not only point out where these substances may be found, but also give such an account of them as may diffuse more generally the knowledge of their uses and their value, in relation either to domestic convenience and economy, or to commercial enterprise. My observations, therefore, will assume the form rather of a STATISTICAL MEMOIR, on the USEFUL minerals which our State embraces, than of a scientific Geological Survey; although I hope to make some use of the information collected in my excursions, to promote the interests of Geological Science.

I have, moreover, understood it to be the wish of the Board, that any other observations, which may have occurred during my excursions, connected with Agriculture and Rural Economy, and tending to promote the interests of either, may also be incorporated in this Report.

In the present paper, I propose to consider such objects as occur to the Geologist in travelling westward from Raleigh, and viewing the State on either hand to its northern and southern limits. The principal of these are the Plumbago and Magnesian Minerals of Wake; the Free-stone and Coal of Orange and Chatham; the great Slate formation of Person, Orange, Randolph, and Montgomery; and the Gold Mines of Montgomery, Anson and Cabarrus. Many other objects of subordinate extent will occasionally present themselves.

PLUMBAGO OF WAKE.

Locality and extent.—This great deposit of Black Lead lies a little westward of Raleigh, and is crossed by all the roads that lead to Hillsborough. On the road to Chapel-Hill, I have observed it in a gulley within two and a half miles of the Capitol, which is, I believe, its nearest distance from Raleigh. On the same road it is seen again a little west of Mrs. Streeter's; and a short distance north of this place, on the Hillsborough road, is one of the largest beds that I have seen any where exposed to the surface. Its apparent width is about twenty feet. On the eastern road to Hillsborough, we fall in with the formation soon after passing Crabtree Creek, three and a half miles from Raleigh. At this place is *Guthrie's Mine*, where the principal excavations have been made, and where has been obtained the greater part hitherto exported.

The whole formation consists of a great number of parallel beds varying in width from a few inches to twenty-feet. They lie in a singular variety of isinglass rock (*micaceous shistus*) usually of a bright cherry red, but sometimes of a silvery white colour. These beds occur throughout a space not less than three-fourths of a mile wide and ten miles long. To this extent I have myself observed it; but a land-surveyor informed me that he had followed it eighteen miles, and found its bearing to be south ten degrees east. I have no reason however to suppose, that the limits of the Plumbago have been as yet accurately defined. I have never read of any mine of Plumbago which can compare in extent with this, but have reason to believe that it is the largest mine on record.

The Plumbago may be obtained in large masses unmixed with any foreign ingredients: but it is frequently more or less blended with the rock in which it lies. From this, however, on account of its softness and friability, the Plumbago may be easily separated by pulverising and washing; although, probably, a sufficient quantity of that which is pure, may be obtained to supply the market. It would be favorable to the reputation of the ore, to have that which is offered for sale well assorted, according to the different qualities. This practice is strictly maintained at the celebrated mine in England.

Quantity and value of the Plumbago.—This mine is not only of great comparative extent, but the ore itself is of a superior quality. As this is a point particularly interesting to the public, as well as to the proprietors of the mine. I may be permitted to communicate all the information I have in my possession respecting it. The only notice of this mine which I have met with in any foreign publication, is contained in Parkes' Chemical Essays, printed at London in 1815. In this highly respectable work it is thus noticed. "Some time ago a gentleman from North-Carolina, informed me that a mine of Black Lead had been discovered in the neighborhood of Raleigh, one of the cities of that State, which promises to be of very considerable consequence to the whole of North-America. The mineral occurs in large solid lumps, and the mine is so extensive that it is thought to be inexhaustible. It is usually sold in its native state, packed in barrels, at 18 or 20s per cwt."—(Parkes' Chem Essays, II. 344.)

I have introduced this quotation, not because it is very material to our purpose, but because I supposed it might gratify those more particularly interested, to learn what impressions had been received abroad respecting this mine. It is only recently however, that any part of the Mineralogy of the United States has attracted much attention abroad; and most objects of this kind have remained concealed from the scientific world, for want of Mineralogists to explore and describe them. Within a short time, our mine of Plumbago has become an object of inquiry and interest among men of science and manufacturers, as will appear from the following testimonies.

Professor Silliman, of Yale College, whose authority on subjects of this kind is very high, was presented with a specimen of this Plumbago by the Hon. Judge Johnson of South-Carolina. In the fourth volume of the American Journal of science, it is thus noticed. "Plumbago from North-Carolina.—It is of a very fine quality, and appears well adapted both for crayons and pots." The same gentleman, in his late experiments on the fusion of charcoal, and several kindred substances of which this is one, selected for experiment the Plumbago of North-Carolina as being peculiarly fine and pure.—(American Journal of Science and Arts, Vol. VI. 341.) Professor Dewey, of Williams College, Massachusetts, says respecting a specimen of the same which I had sent him, that "it was the finest he ever saw." Not long since I received a line from a gentleman in Vermont, who contemplated setting up the manufacture of Black Lead Pots or Crucibles, requesting some particulars respecting our Plumbago, having been informed, on the highest authority, that it was the best that could be procured in the United States.

The foregoing facts are, I trust, sufficient to show that the article in question is of superior quality. Let us next inquire what would be its value in the market.

The most celebrated mine of Plumbago in the world, is at Borrowdale, in England. This presents the article under consideration in its greatest perfection, and it may be proper to recite some facts to show the great value attached to it. The extracts are from the 5th Volume of Parkes' Chemical Essays, a work of good authority on subjects of this kind. "It was during the reign of Elizabeth that the very valuable mine of Black Lead, or Plumbago, was first discovered at Borrowdale. When the value of the mine became known, the proprietors found it very difficult to guard it so as to prevent depredations. The practice of robbing it was become so common, that several persons living in the neighborhood were said to have made large fortunes by secreting and selling the mineral. In order to secure the vast treasure which is contained within this mountain, the proprietors have now erected a strong brick building, consisting of four rooms, on the ground floor one of which is immediately over the opening by which the workmen enter the mine as they go to their work. This opening is secured by a trap door, and the room connected with it is called the dressing-room; for when the men enter it, they slip off their usual clothes, and each of them puts on a dress suitable for working in a mine." On their return, the Steward examines each man to see if he have not concealed some of the ore. "These men are constantly shut in when at work, and the Steward walks backwards and forwards in an adjoining room furnished with two loaded blunderbusses, which hang within his reach, for the sake of farther security. Formerly this mine was opened only once in six or seven years; but in consequence of the demand being greater, and the quantity which they have discovered not being so large, it has been found expedient to open it and dig for ore during six or seven weeks every year. During this time the mine is guarded night and day. When the working is over, the mine is secured by throwing back the rubbish and damming up a small stream of water that runs through the mine, so as to flood it completely. "All the Black Lead is sent to London, where it is deposited in the ware house of the proprietors, and afterwards disposed of by public auction, on the first Monday in every month throughout the year; and *the best kind usually sell for two guineas or more per pound.* In some years the net produce of the Black Lead has amounted to thirty or forty thousand pounds.

The circumstance which renders the Borrowdale Black Lead so very valuable, is its excellence for making crayons or pencils. Though this mineral is by no means rare, yet it is not often that it occurs of a quality exactly suited to this purpose, being too hard, or too soft, or friable, or mixed with impurities. Whether any of our Black Lead is suitable for pencils, without special preparation for that object, remains yet to be determined. Its slaty and fissile character will render it much less valuable than that of Borrowdale. We cannot, therefore, in the present state of our knowledge, assign any precise value to our Plumbago grounded on the price paid for the other, but must, for the present, content ourselves with comparing it with hthose kinds of which there is a more abundant supply in the market, although we have much reason to suppose that ours is of a quality superior to any of them.

I have met with no account of any foreign mine of Plumbago, which appears to resemble ours so much, as one at Glenstrathfarrar, in Scotland. "This mine was discovered by accident in 1816, and the proprietor, Fraser of Lovat, immediately determined on its being worked. The working is carried on by ten or twelve men, and is entirely at the day, the mines not having sunk more than a few yards from the surface. The quantity hitherto raised has been inconsiderable; last year, for instance, the quantity sent to the London market did not exceed five tons. This was sold at the rate of £ 93 [sterling] per ton,* thus affording a great profit to the proprietor, as the average expense of mining and transport did not exceed £ 13 a ton."—(Edinburg Philosophical Journal, I. 133.)

At Ticonderoga, near lake Champlain, is a mine of Plumbabago, which has been wrought to a moderate extent. It is thus noticed by Professor Hall, in the American Journal: "It is removed from the gangue by means of chisels, pick-axes and iron bars, and conveyed to the Falls, where it is pulverised and purified. It has been prepared for the market, chiefly by Guy C. Baldwin, Esq. who informed me, that about three tons are disposed of annually. *The average price at which it is sold is sixteen dollars a hundred.*"—(American Journal, VI. 78.)

This mine occurs in a hard granite rock, and the labour of extracting the Black Lead is much greater, and of course more expensive than at our mine. It requires, moreover, a subsequent process of purification which, with respect to a great part of ours, is unnecessary. Another mine which might possibly come into competition with ours, has been lately opened at Bristol, New-Hampshire,and another in Bucks County Pennsylvania, has been longer known and wrought to some extent.

But one circumstance that will render this article less able to sustain any very powerful competition, is *the limited use that is made of it*. It is indeed employed for a variety of purposes, but none of these consumes a great quantity of the material. If the quality of our Plumbago is decidedly superior to most of that derived from other sources; or if the facilities of mining are greater in this case than usual; then it will have little to fear from competition, but will easily keep possession of the market. Of the truth of both these suppositions there is sufficient *probability* to warrant a full trial. That the facilities for mining are peculiarly great, I have no doubt; nor have I but little, that, with due pains in the selection, the quality will be found superior to any that can be offered in the market, without the labour of a previous purification. At present, London appears to be the best market, but Amsterdam, or some other city of Holland, might be as good.

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* $412 92.

It is probable, also, that, sooner or later, it may be found advantageous to manufacture this article among ourselves. It may be well, therefore, to exhibit an account of the uses that are made of it, and to give some general sketch of the modes of manufacturing it for use.

Uses, &c.—The purpose for which Black Lead of the best quality is required is, for making pencils and crayons. Of all the mines known, very few afford the mineral of a suitable quality for the manufacture of these articles ; and it will be an important advantage which our Plumbago will possess over most that is offered in the market, should it prove (as I believe much of it will) fine enough for this purpose. The general account which is given of the manufacture of Black Lead Pencils is, that a mass of the mineral is sawn into thin slabs, which are again divided into small strips. These are inserted in grooves cut in cylinders of cedar. It is evident, however, that the slaty kinds of Black Lead, like ours, would not admit of this process, the strips thus produced not having sufficient firmness or cohesion to retain their figure. But, though the foregoing is a general account of the manufacture of pencils, it appears that the mineral is not usually employed in native masses, but that these are reduced to powder, and afterwards re-united into a mass. This process is practiced even with the Black Lead of Borrowdale. At London, Black Lead Pencils are manufactured "by melting together fine Cumberland [Borrowdale] Black Lead in powder, and shell-lac. This compound is repeatedly powdered and re-melted, until of uniform composition ; it is then sawn into slips, and mounted as usual. Pencils thus made are uniform, and of great strength, and there is no waste of material."—(London Quarterly Journal, III. 425.) Another method of hardening the same Black Lead, practised at Keswick, near the mine, consists in reducing the mineral into slices about 1-20th of an inch in thicknesss, and then keeping it for some time in melted sulphur.—(Annals of Philosophy, xv. 199.) A great part of the Black Lead Pencils manufactured in Holland, consist of mixtures of this mineral and sulphur, the latter being added as a cheaper ingredient.

If the most advantageous mode of manufacturing Pencils requires that the Black Lead be first reduced to powder, then the slaty character of ours will be no detriment, so long as it possesses the proper degree of fineness and purity ; and that it does, I have very little doubt. I refer of course to the best specimens.

A second use that is made of Black Lead, is in the manufacture of *crucibles or melting pots*, such as are employed by glass makers, refiners, braziers, and other artists. Here the Plumbago is mixed with a portion of infusible clay, which prevents its being burnt up in the furnace. Crucibles thus made, have many advantages over those made simply of clay. They stand the fire better, are smoother and neater, and do not permit what is melted in them to cool as soon. Hence they are much employed in the arts, and probably will be more so when the price of Black Lead becomes reduced. Those of the best quality are made in Holland. A few were manufactured in Philadelphia during the late war; but they were found so far inferior to the Dutch crucibles, that, on the return of peace, the business was given up.

A third mode in which Black Lead may be usefully employed is in the composition of *friction paste*. This was patented in England under the name of the ANTI-ATTRITION PASTE, but it may be easily formed according to the following recipe: "Mix one pound of hog's lard with half a pound of Black Lead; stir them well together, while melting over a slow fire. If the axles and bushes of the wheels be true, a carriage may safely be run one hundred and fifty miles, with once using the above composition," (Parkes' Chemical Essays, II. 343.) The Black Lead should be added to the lard in powder; or it should be previously ground in a mortar with a small quantity of lard. This will be found a useful preparation for lubricating machinery.

A compound somewhat similar to the above, is used to coat over articles of cast iron, as stoves, fire-places, and the like, in order to give them an agreeable surface, and to keep them from rusting. Eight pounds of lard are melted with a little water, and four ounces of camphor is added. While warm, as much Black Lead is added in fine powder as will give the whole a leaden color. The article to be coated is made as warm as the hand can bear to touch, the paste is rubbed on, and when dry it is wiped clean and presents a smooth polished surface, (Rees' Cyclopedia, Art. *Plumbago.*) This is an ancient recipe; probably more simple ones are now in use. Indeed, the powder of Black Lead stired up with milk, makes a very proper application for rough iron surfaces.

It would greatly increase the demand for this article, if it could be introduced into common use for *paint*. It composes, when ground with oil, a paint of good body, and peculiarly excellent for the roofs of houses. Its smoothness and its greasy quality, which prevent its spreading well, and render it less suitable for delicate painting, are well fitted to turn off the rain, and it forms a coating for roofs both durable and handsome. The Black Lead ground in oil, which is usually found in the market, is of a quality very inferior to the paint which would be formed by our Plumbago; it is frequently nothing more than a certain kind of coal. It seems to me an object worthy of some enterprise, to ascertain whether an extensive sale may not be obtained for our Black Lead for the purposes of painting. It may be added, that this is a very excellent substance to mix with tar for coating the roofs of buildings.

I have not enumerated all the uses that are made of Plumbago; but the foregoing are the principal. They are sufficient to show that its intrinsic value is great, although foreign markets should be glutted with the article from other sources. But no very effectual trials have been made to make it known to the commercial world. Mr. Henderson, it is true, a few years since embarked in the concern with a laudable zeal and enterprize; but several untoward events, unconnected with the real value of the article, prevented his success. He sent it to France, to Denmark and to Scotland. Some was sold for five crowns per hundred, and some for ten dollars. I have before mentioned London and the cities of Holland as probably the best makets for it on account of the extensive manufactures of it carried on in those places.

Not far from the Pilot Mountain is another considerable deposiof Plumbago. It may be seen on the land of Mr. Spainhaur. It appears to be inferior in quality to that of Wake, but is extent sive and deserves attention.

Fire-Stone.—The rock that forms the bed of the Black Lead of Wake is an excellent fire-stone, and will be found very suitable for the hearths of forges and furnaces, and for the backs of fire-places. I have never seen a rock of this class so compact in its structure. This admits of being got out in large blocks, as may be seen in the steps of the Newbern Bank at Raleigh. It is not, however, very suitable for steps, on account of its liability to crumble and decay when wet. A similar kind of stone is used for furnace-hearths at the iron-works in Lincoln. Before its discovery there, the proprietors of those works were accustomed to send to Philadelphia for it.

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Magnesian Minerals of Wake.

Under this name are included several minerals, which owe their peculiar properties to the presence of Magnesia, the most important of which are Serpentine and Soapstone. Both of these rocks occur in great abundance and of a good quality, a little north of the Black Lead formation, and within twelve miles of Raleigh. Serpentine, though not strictly marble, is sometimes sawn into slabs and polished, and sold under the name of green marble. It is by no means an uncommon mineral, but it is not often found so beautiful as at the foregóing locality. It very much resembles a kind found in the Isle of Anglesea, where it is wrought into chimney-pieces, columns, and for other architectural and ornamenta purposes. The colors are principally dark green, intermixed with spots and clouds of lighter green, and shining laminæ of Shiller-Spar, or crystallized Serpentine. (Bakewell's Geology, p. 95.) This description applies exactly to our Serpentine, and I have no doubt that ours is equally elegant with that of Anglesea. It is harder than marble, however, and consequently more expensive in the working, and therefore cannot come into common use except in an advanced state of Society. The following account of the Serpentine of Anglesea will give some idea of the manufacture. "The quarries are now working to a considerable extent, with a fair pospect of ultimate success, although hitherto attended with heavy expence. Like many other productions of our own country, the introduction of this beautiful stone met in the first instance with a very decided opposition; but the splendor and variety of its colors, and the high degree of polish it is capable of receiving by the aid of a powerful steam-engine, have recommended it to public favor. It is proved by experience that the colors are indestructible, and on account of its great hardness, it cannot be easily scratched or defaced, nor can the polish be injured either by air, moisture, or acids, (Bakewell's Geology, p. 93.)

Elegant vases and boxes are also made of this article; but we must for the present regard it as one of those substances, which, though it cannot be turned to immediate profit, may be highly prized in a more advanced state of our arts.

Fine *Soapstone* is found in connexion with the Serpentine. It is of a light color, variegated with shades of green. This mineral is too soft to admit of a high polish, but it still appears with advantage in some kinds of ornamental architecture, as may be seen on the eastern side of the Capitol at Raleigh. A handsomer variety of Soapstone than this, is found in the eastern part of Orange County, near the River Eno, on the land of Mr. Redmond. This is uncommonly beautiful, presenting a very delicate white ground, tinged with a light red; what is quite unusual, it is so compact as to admit of a pretty high polish. Fine Soapstones are abundant in Wake, Orange and Randolph, and several other localities will be noticed in their places.

The facility with which Soapstone is wrought, induced the Aborigines of this country to make great use of it. They employed it for tobacco pipes, and for several culinary vessels. Its excellence as a fire-stone is generally known. No substance answers better for the backs of fire-places, as it hardens in the fire, is not easily broken, and not liable to crack, like many harder kinds of stone, by sudden heating or cooling. A use to which Soapstone has recently been applied is, to serve in the place of logs or pipes for aqueducts. Being very easily sawn into blocks, and as easily bored and turned, the preparation of it for this purpose is less expensive than might be imagined. An aqueduct constructed of such pipes, must possess almost every conceivable advantage.

FREE-STONE AND COAL FORMATION OF ORANGE AND CHATHAM.

By the term "Free-stone" is meant a kind of rock which may be easily split and wrought into suitable forms for building. In this sense, the term embraces several different kinds of rocks; but the one now under consideration, which is the most common of all, is Sand-stone, being apparently made up of grains of sand cohering together with a greater or less degree of firmness. The formation is very extensive, embracing a great number of beds of excellent Free-stone, varying among themselves in color and texture, but nearly all extremely well suited to the purposes of architecture.

Boundaries and Extent.—The Sand-stone extends from Oxford in a southerly direction, quite through the State. Its length, within our own State, is about 120 miles. The breadth of the formation varies considerably in different places. On the south-east of Oxford it disappears among the vallies, converging almost to a point; on the Neuse, its breadth is about 12 miles; between Raleigh and Chapel-Hill, it is 18 miles; not more than 8 miles on the Cape Fear, but southward of that, it grows a little wider. Its average breadth may therefore be stated at about 12 miles. On this supposition, the whole area of the formation is 1440 miles. In passing from Oxford to Chapel-Hill, the traveller passes nearly on the line of its western boundary. This runs onward, at the foot of Chapel-Hill, a mile and a half east of the University; meets Haw River about three miles above Haywood, and Deep River five miles north-west of Tyson's Mills. Thence it passes through Moore County, by Richland Creek; thence into Montgomery by Cheek's Creek; and finally through Anson, a few miles above Wadesborough, into South-Carolina. The eastern boundary will be indicated with sufficient exactness, by mentioning the points where the roads meet it, that diverge westward from Raleigh. On the road to the Fish-dam, on the Neuse, the Sand-stone begins to appear two miles north of Boyce's Mills, and five from the Fish-dam, on the same road. On the western road to Hillsborough, the line of the formation passes a little east of Brassfield's. The same line is met with on the way to Chapel-Hill, near Mrs. Jones's on Crabtree Creek, twelve miles from Raleigh. Farther south it is found five miles below Haywood, on the Cape Fear, and not far from Sneedsborough, in the County of Anson.

I have been thus minute in pointing out the boundaries of this Free-stone, because I have more than once met with formation of those who had lived many years within this region, without ever suspecting that any use could be made of the large blocks and ridges of stone which they saw around them. Having, therefore, sufficiently ascertained its boundaries and extent, let us next enquire what practical applications may be made of the substances within this formation.

The two principal articles within the region above described which will demand our attention, are Free-stone and Coal. These we may consider seperately.

1. Sand-stone.

The Sand-stone of this region appears in large rounded blocks, frequently many tons in weight, and lying side by side in a continued bed that extends from north-east to south-west. These beds are frequently buried by the sand to such a depth as to be visible only on side-hills, and in the banks or beds of water-courses. Red is the predominant color; but several shades of this are exhibited, and a light gray and a dull yellow are not unfrequent colors. All these varieties are often contained in the same bed within a few feet of each other. A similar diversity prevails in the texture of this rock. It is sometimes very fine grained, sometimes very coarse: in one place the grains are very closely cemented together, forming a hard, firm rock; in another, they cohere loosely, and the rock is proportionably friable and destitute of strength. It is important to note all these circumstances, to shew that there is much reason for examining with care and pains in selecting materials for building or other purposes. I have known workmen employ a very poor kind of Sand-stone from one of these beds, when a little search would have discovered, within a few hundred yards, a specimen of the best quality. As a general rule, the finer the grain and closer the texture, the better. Those varieties which are porous, absorb water, which, by freezing in cold weather, renders them liable to crumble and decay. If two specimens be placed in water, that which emits the fewest bubbles will be found the most durable. All these kinds of sandstone, however, become harder by exposure to the sun, by evaporation of the water with which they are filled while lying in the ground. Some specimens that are hardly firm enough, when first taken from the ground, to admit of being shaped into blocks, acquire such hardness by exposure, as to form a strong and durable wall. When the stone is peculiarly exposed to injury, as in the case of step-stones, they should be suffered to remain for sometime in the sun before they are laid.

The purposes for which this rock may be employed are for Building-stones, for Mill-stones, for Grind-stones and Whet-stones.

1. *Building-stones.*—In countries where architecture has made greater progress than in our own, it might be deemed superfluous to point out the various applications of Free-stone in building; but the use of it among us is of so recent a date, that I cannot learn that a single block of it was ever hewn or dressed until within half a dozen years; and there are many persons who have excellent quarries of Free-stone on their own farms, who have never learned its uses, but still employ in its place the most perishable materials. It is to be hoped that the foregoing observations may assist them in ascertaining the existence of the Free-stone on their own premises, and that the following remarks may induce them to employ it for some of those purposes, for which it is so admirably adapted by nature. Nothing within the reach of the inhabitants of this district, is so well adapted as this for cellar-walls, for underpinning, for steps, for chimnies, and even, in some cases, for the entire body of the house itself. Where a quarry is near at hand, and a workman can be obtained who understands the method of quarrying and shaping these rocks, they will often be found more convenient than bricks for most of the foregoing purposes. A circumstance which gives them greatly the advantage over bricks in a country where lime is so expensive an article is, that they require far less mortar. Coarse sand, or the Sand-stone itself pulverised, and a very small proportion of lime, (not more than one-ninth when intimately mixed,) will compose a mortar, which will cement them very firmly together.

Should this stone be employed for contructing the entire body of houses, the following hints may possibly be useful. In the first place, the lighter varieties are preferable for this purpose to the darker. The red Sand-stone, when piled in a large wall, has a dull, gloomy aspect, while the light grey or yellow varieties appear in a similar situation, cheerful or gay. Buildings having the main body of light-coloured Sand-stone, and the underpinning and window-sills and caps of dark coloured, are very hadsome; and it would be easy to form, out of the several varieties of our formation, combinations of this kind.

In the second place, a building that is formed of this, or any other kind of stone, ought to be *furred*; that is, not plastered immediately upon the stone-wall, but at a little distance, say two or three inches, from the wall. For this purpose, small pieces of scantling or thick plank are introduced into the wall at the time it is laid, and made to project to the distance of two or three inches from it. To these, laths are nailed, and the plastering is spread upon them, by which means the house has a space of confined air, between the plastered wall and the main wall of the building, that keeps the house from suffering by dampness, which collects on naked stone walls. Double walls of this kind are also cooler in summer and warmer in winter than single walls, and are therefore made for every kind of house in some countries of Europe. They are almost as necessary to a brick as to a stone house.

As the knowledge of these substantial and durable materials for building is extended and diffused, and workmen who are acquainted with the best modes of quarrying and dressing stone are multiplied, it may fairly be presumed that these native treasures will be more highly appreciated, and that, instead of those mouldering piles, that now deform our rural scenery, and give to many situations, which are naturally pleasant and delightful, the aspect of decay and ruin, the traveller may see the more enduring fabrics of stone or marble, or at least houses *founded* on a rock, the family mansions of successive generations.

2. *Mill-stones.*—This region of Sand-stone embraces several beds of that conglomerate rock which is used for Mill-stones. But the most distinguished locality of the Mill-stone grit occurs on Richland Creek, in Moore County, near the western limit of the formation. The importance of this article, and the probability of finding it in other parts of the Sand-stone region, will justify some degree of minuteness in speaking of it. This excellent bed of Mill-stone grit is exposed to view directly on the bank of the Creek, forming three horizontal strata or layers, each composed of large tabular masses. The lowest stratum is of the best quality for Mill-stones. It consists of a hard, greyish red Sand-stone, in which are thickly imbedded water-worn pebbles of white flint or quartz. These Mill-stones are very much valued for grinding corn, and are sought for from distant parts of the State, and bring from thirty to one hundred dollars per pair.

On account of the frequent demand for this kind of stone, and the difficulty of transporting it to a distance without the facilities of water carriage, it is desirable to find the Mill-stone grit in other parts of the Sand-stone formation. I have made considerable search for it, and although I have not observed it any where else of as good quality as that on Richland Creek, yet very favorable appearances are exhibited at several other places. A similar conglomerate rock is found one mile south of the gulf on Deep River, in large blocks above the surface. Also where we first meet the Sand-stone in passing from Raleigh to the Fish-dam on the Neuse, two miles north of Boyce's Mill, the ridges that are exposed on ascending a hill are of the same character. This is on the eastern line of the formation; on the western line also, near Chapel-Hill, certain varieties of the Sand-stone exhibit a little of the same texture. It was before remarked, that the rock at Richland Creek, which affords the best Mill-stones, is the *third* stratum from the top, at the depth of fifteen or twenty feet, the upper strata being of much the same texture and appearance with those rocks found at the several places above mentioned. The qualities required are a firm, hard grain, with coarse pebbles imbedded. These qualities meet in the third bed; but in the superior strata, the grain is not hard enough, nor are the pebbles imbedded with sufficient firmness. The importance of the object, therefore, might justify the labor and expense of some further examination at each of those places, by digging into the earth twenty or thirty feet; and at any other place within the formation, where there appears near the surface a sand rock containing pebbles, bearing in mind that the *genuine* Mill-stone grit, consists of *a hard. close grained Sand-stone, with coarse pebbles imbedded.* Some specimens which would be too soft when first taken from the ground, acquire sufficient hardness by exposure to the sun.

The occurrence of a bed of Mill-stone grit in a formation of Sandstone, is remarked by Geologists with peculiar satisfaction, because this rock, in a regular series, usually lies immediately below COAL, and immediately above LIME-STONE, and therefore inspires the hope of finding, in the vicinity, both these valuable substances. Such is the law of association that prevails in the extensive Coal region of England, and such a union is looked for by American Geologists among the strata of our country.--(Vide Conybeare and Phillips' Geology of England and Wales, I. 349.—Geological Survey of the Erie Canal, 95.) What reasons we have for expecting a supply of Coal and Lime-stone from this quarter, we shall endeavour to ascertain by and by.

3. *Grind-stones and Whet-stones.*—The Sand-stone of this region has been quarried for Grind-stones on Deep River, near the Gulf, on Cheeck's Creek, in Montgomery, and near Chapel-Hill. The species of rock is the same with that of the Nova Scotia Grindstones, so highly valued; but still it is not every variety of the rock that is suitable for this purpose. A fine uniform grain, and a proper degree of hardness, (that is, but moderately hard when first taken from the quarry) are the most essential requisites. These qualities more frequently meet in the *bluish grey* variety of Sandstone; and accordingly we find the Nova Scotia Grind-stones generally of this colour. The proper variety is very often met with among our beds of Sand-stone, and is among the kinds most easily wrought. The dark red varieties have been more frequently employed for Grind-stones, but I cannot learn that any of them have been found of a very good quality.

Whet-stones adapted to the coarser farming utensils, are in a few instances wrought of the same materials as the Grind-stones. For the finer kinds of instruments, it will he seen hereafter that we possess the most abundant supplies.

The foregoing particulars comprise all that I have to offer at present respecting the Sand-stone; but there are certain other substances connected with it that will demand some further attention. The principal of these is Fossil Coal, on which I now proceed to make some remarks.

2. Coal.

Those whose observations have been confined to a country abounding with forests, will be surprised to learn that nearly all the fuel of the most populous countries in the world is dug out of the bowels of the earth. This subject has an intrinsic importance, therefore, of which probably but few among us are aware. In illustration of this point, we offer the following considerations.

Every State in a stage of progressive improvement, although at present supplied with abundant resources for fuel in her native forests, must look forward to a period when these resources will be either partially or wholly exhausted. Some countries still extensively covered with forests, are exhausted in spots by the demands of large and populous cities, or of certain manufactures, which require enormous supplies of fuel. Pittsburg, in Pennsylvania, though situated in a region which was but a few years since an unbroken wilderness, affords at present an illustration in point; for her neighbouring forests were long since cut down, and were it not for her Coal Mines, she would now find it impossible to carry on those great manufactures which constitute the basis of her affluence. England offers an example of a country in which, on account of the density of her population and the extent of her manufactures, wood can no longer be looked to for fuel; and were it not for those vast repositories of Coal with which she is so richly endowed, her immense manufactures, the pillar of her greatness, could never have been brought to their present height, nor could they be sustained any longer. "The manufacturing industry of this Island, (says a late British writer,) colossal as is the fabric which it has raised, rests principally on no other base than our fortunate position with regard to the rocks of this series. Should our Coal Mines ever be exhausted, it would melt away at once, and it need not be said that the effect produced on private and domestic comfort would be equally fatal with the diminution of public wealth; we should lose many of the advantages of our high civilization, and much of our cultivated grounds must be again shaded with forests, to afford fuel to a remnant of our present population."—(Conybeare and Phillips' Geology of England and Wales 1, 324.)

These Mines, so important to Great Britain, are chiefly in the North of England, one of the most important of which is that of Newcastle. This Mine has been wrought about 600 years, and at present it supplies not less than two millions of chaldrons, or seventy-two millions of bushels of Coal annually. The *monthly* supply of London, alone, is estimated at 2,376,000 bushels. Immense as are the quantities of Coal taken from this formation every year, yet it is computed that enough still remains to afford the same supply for 1000 years to come.—(Annals of Philosophy, 4, 411.)

Although, therefore, we may now look around us and see apparently an exhaustless supply of fuel in our forests, yet the time may not be distant when some large manufacturing establishment shall call loudly for Coal; and perchance in no very distant age, the domestic wants of some portion of our citizens may make them look for this article with very different feelings from any that influence the present generation. Let us see, therefore, what reason we have to suppose that a supply of this article may be found in the district of country which we are at present surveying.

In the first place, the series of rocks composing this district constitute what is called by Geologists *an independent Coal formation.* That is, they are such a class of rocks as are known usually to embrace a greater or less number of beds of Coal. Such are the rocks which accompany the Coal of England; such is the Coal Basin of Richmond, in Virginia.

In the second place, this formation may be considered as a continuation of the Richmond Coal deposit, and both are believed to be a continuation of a long and narrow deposit of Sand-stone which extends from Connecticut River to the Rappahannock.* Indications of Coal have been observed in various parts of this range. The Mine in Chesterfield County, between the James and Appomatox Rivers, in Virginia, has been wrought to some extent, and furnishes at present a considerable article of commerce.

In the third place, in addition to the foregoing *presumptions* that Coal *might be* found in the district of country under consideration, we have it in our power to say, that Coal has actually been discovered in this region, and that a bed of considerable extent has been opened not far from the Gulf on Deep River.

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* Mr. M'Clure, the distinguished President of the American Geological Society, has traced the above formation of Sand-stone for an extent of 400 miles to the Rappahannock, where he supposes it to terminate on the South. Of the Richmond basin he remarks, that "it would not be far distant from the range of the red Sand-stone formation had it continued so far South." Our Sand-stone formation, which lies in the same range, was not known to Geologists at that time. From an entire similarity in the rocks, as well as from a coincidence in their range, I have little doubt that both the Richmond and the North-Carolina Sand-stone belong to the same formation with that north of the Rappahannock. The Sand-stone and Coal deposit of Richmond or Chesterfield, has a greater extent than was supposed by Mr. M'Clure, being 60 or 70 miles instead of 20, as he supposed, and if we add to this 120 miles, the length of our Sand-stone deposit within this State, (and I know not how far it extends into South-Carolina,) we make nearly 200 miles, which is half the length of the whole range north of the Rappahannock (Vide M'Clure's Obs. on the Geology of the U. States, p. 44.)

It is about fifty years since this Coal bed was first discovered. Mr. Wilcox, an enterprising gentleman, proprietor of the Old Iron Works at the Gulf, took some pains to have it opened, and to introduce the Coal into use. Blacksmiths from different parts of Great-Britain made trial of it, and concurred in pronouncing it to be of excellent quality. During the life-time of Mr. Wilcox, it was freely employed in the vicinity, although the want of water-carriage prevented its being transported to a distant market. For some years past the Mine has been neglected, and at the time of my visit, it was not in a favorable state for observation. The principal excavation is one-fourth of a mile North of Deep River, on a ridge elevated but a few feet above the general level of the country, and distinguished from all the other ridges in the district, by consisting chiefly of a finely divided Black Slate. The present edge of the bed is about ten feet below the surface of the ground, and dips to the south-east at an angle of about twenty degrees. The thickness of the bed when entirely exposed, according to Mr. Tyson, the proprietor, is about one foot. The water and rubbish with which the pit was incumbered, did not permit my ascertaining the facts respecting it so much from personal observation as I desired, but the respectable proprietor assured me, that waggon loads of the Coal could be obtained with ease. The Coal is highly bituminous, burns readily with a bright flame, and is, I think, of much the same quality with the Richmond, or the Liverpool Coal.

With regard to the *extent* of this Coal Mine, I have no means of judging with much certainty. On the road from Salem to Fayetteville, by way of Tyson's Mills on Deep River, the traveller crosses a number of ridges of that shelly kind of Black Slate which is the accompaniment of the Coal, and may be considered as a symptom of it wherever it occurs. This however passes under a soft red rock, called by Geologists Slaty Clay, which extends southward towards Moore Court-House, and nothing is seen of the Black Slate on the South side of the River.

Those who feel a peculiar interest in the Coal district, may be glad of some information respecting such pits as have been opened in other Coal districts resembling this. At the corresponding Coal formation in Virginia, 25 pits have been opened. These differ greatly in their product; but at Heth's pits, (the most productive,) the entire thickness of the Coal strata is 50 feet. This thickness is not obtained, however, by digging near the surface, or where, in the language of the Miners, the Coal "crops out;" but one shaft in these pits is sunk 350 feet, and accommodated with a steam engine for carrying off the water. When the excavation is made near the place where the Coal crops out, we find the thickness of the bed to be that of one stratum only; but if we take a position at some distance from this spot, in the direction of the dip, we may fall upon a number of strata which rest upon the first. Thus at Heth's pits, a shaft was sunk at such a distance from the upper extremity of the Coal, as to give a thickness of strata equal to 50 feet. The accompanying strata of earth and rocks, are a number of beds of Clay, Gravel, Sand-stone and Slate.—(Grammer, Amer. Journal, 1, 128.)

The great Coal-field in the North of England, is 180 square miles in extent, and at an average thickness of 1620 feet. It comprises 40 beds of Coal lying one above another, not much exceeding six feet in thickness, in any case, and being generally not more than from one to three feet thick; indeed many of them are quite insignificant. The two most important beds are distinguished by the names *High Main and Low Main*, which are 360 feet asunder, and the latter is 810 feet from the surface. Between them occur 8 beds of Coal of various dimensions. Within the limits first mentioned, namely 1620 feet, are included a great number of beds of Slaty Clay, Sand-stone and *Lime-stone*, which alternate with the Coal beds.

These facts are recited here to give some idea to those who have not been conversant with this subject, of the nature of a Coal formation. They will infer also the magnitude of the undertaking required for mining this substance for market. It is at such places that all the facilties of mechanical ingenuity are brought into requisition, and all the energies of the Steam Engine are displayed.

The existence of Coal in any given place, its quality and extent, are ascertained by *boring*. This process is performed with an auger of peculiar construction, which brings up successive portions of the strata from different depths. The employment of boring for Mines, constitutes a distinct trade in some of the older countries of Europe. from whence an agent might be obtained to make a full examination, before large expenditures were made in digging for Coal. It is not improbable that other beds exist in different parts of the Sand-stone district. The occurrence of Black Slate, or of Mill-stone grit. at any place, would afford some encouragement that Coal is in the vicinity. A shelly kind of Slate that is found not far from the Mill-stone grit of Moore County, offers an instance of the kind of country referred to.

These are all the remarks that occur to me, at present, on the subject of our Coal. The same substance is found also in the County of Rockingham, and the subject will be resumed should a subsequent Report lead me to speak of the Geology of that region. There are two or three other substances of some practical importance, connected with the district of country now under review, which will occupy us a few moments longer.

It is an inquiry interesting to Agriculture and the Arts, whether, as has been reported, there be any beds of *Lime-stone* in this district?

A marly kind of Lime-stone is found connected with the Sandstone near its eastern limit, not far from Brassfield's, in the County of Wake. It does not appear to be extensive, nor is its quality good. But though unsuitable for making good Quick-lime, it would probably be found a useful kind of manure. These soft and marly kinds of Lime-stone, when pulverised and spread on land, often prove very fertilizing. But a more extensive deposit of Lime-stone, and that of a better quality, may be reasonably looked for in the neighbourhood of the Coal. In most instances Lime-stone is the most constant associate of that mineral: the great Coal beds of England, before mentioned, embrace among the Coal strata nineteen distinct beds of it. The most usual series is that of Coal, Mill-stone grit, and Lime-stone, lying in the order here named. This would afford us some hopes of finding Lime-stone immediately below the beds of Mill-stone grit. It also sometimes embraces the Coal in a formation shaped like a basin, and may be found near the outer edges of the Mill-stone grit, as at the Coal Basin of South Wales.—(Conybeare and Phillips' Geology of England and Wales, 1, 426.)

The colour of this species of Lime-stone is never white, but is dark, varying from grey to black. It is frequently nearly of a Slate colour, and is sometimes fetid, especially when two pieces are rubbed together. Lime-stone presents so many different appearances to the eye, that large beds of it frequently lie exposed to observation for a long time before it is known what they are. Yet any one may easily satisfy himself whether a given Mineral is Lime-stone or not, by the following rules:

1. Apply to it the point of a knife; if it be easily scratched, but still too hard to be cut, it will exhibit one sign of being the Mineral in question.

2. Drop on a drop of aquafortis or oil of vitriol, and notice if it boils or effervesces.

3. Place a small lump in a Blacksmith's Forge, and expose it to a high heat for half an hour, and observe whether it turns to Quick-lime.

Lime-stone has been discovered among the Coal-beds of Moore County, though as yet it has not been found to any great extent. I was informed by the late Murdock M'Kenzie, Esq. that it was formerly obtained in such quantities as to be employed in the reduction of Iron Ore at Wilcox's Old Furnace; and that traces of it were found to the distance of 7 or 8 miles south of Deep River; but I cannot learn that any one has discovered it, except in detached nodular pieces, though I cannot but think there is some encouragement to look for it in that region.

Iron Ore is found near the western line of the Free-stone and Coal formation, where small quantities were formerly obtained for the Iron Works on Deep River. It consists of Iron mixed with a large quantity of clay, but is so easily quarried and broken up as to become in many instances a profitable Ore. A great proportion of the English Iron is manufactured from Ore of this kind. Mr. Eton, in his late Geological Survey of the Erie Canal, conducted under the patronage of the Hon. Stephen Van Rensselaer, describes a bed of Iron Ore which is found invariably to accompany a peculiar kind of Slate, lying above the Slate and below the Sandstone. In passing westward from Moore Court-House into Montgomery, we fall in with a kind of Slate very similar to that which Mr. Eton describes. It occurs in the western limits of the Freestone formation, and passes immediately under the beds of Sandstone which lie east of it. It will be an object worth the attention of those who live in the region referred to, to examine the line between the Sand-stone and the Slate, with the view of ascertaining whether they do not contain a bed of Iron Ore; my time did not permit me to pursue the examination.

Gypsum and Salt are sometimes found in such an assemblage of rocks as the foregoing; and the Geologist might pronounce with much assurance, that, with one very limited exception in the County of Rockingham, these valuable minerals will not be found any where in North-Carolina, unless in the formation of Free-stone and Coal now under review. This, indeed, is not saying that they will be found even here; but the observation may still be of some use in limiting the field of search, and preventing useless researches. At present I will only add, that I have noticed in several places the peculiar kinds of soft Red Sand-Rock which is regarded by Geologists as indicative of Salt.

To sum up what has been said, it appears that the district of Country which contains what I have called the Free-stone and Coal formation of Orange and Chatham, affords materials for various purposes of Architecture, for Mill-stones, for Grind-Stones and Whet-Stones; that it embraces a bed of bituminous Coal of unknown extent; and that, both from indications already remarked, and from established geological principles, hopes may reasonably be entertained that the same region will yield a supply of Limestone and Iron Ore, and possibly of Salt and Gypsum.

It only remains to consider, in the present Report, the great body of Slate Rocks which we fall in with immediately after leaving the Free-stone and Coal formation in our progress westward.

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SLATE FORMATION OF PERSON, ORANGE, RANDOLPH, &C.

Parallel with the Free-stone and Coal formation, and partially in contact with it on the west, lies the great Slate Formation of North-Carolina. It extends quite across the State from north-east to south-west, covering more or less of the counties of Person, Orange, Chatham, Randolph, Montgomery, Cabarrus, Anson and Mecklenburg. Its breadth, which is nearly uniform, is about twenty miles. From Halifax westward to Person Court House, the traveller meets with hardly any kind of rock but Granite. He leaves the Free-stone formation which we have just been surveying a little to the left, in the vicinity of Oxford, and falls in with the great Slate formation near the eastern line of Person. From Oxford to Chapel-Hill, the road passes nearly on the line of separation between this Granite on the west and the Sand-stone on the east. At Chapel Hill, or a little south of this place, the Slate formation comesin contact with the Sand-stone, and continues in conjunction with it quite into South-Carolina. Person Court-House, Hillsborough, Pittsborough, Randolph Court-House, Lawrenceville, the Narrows of the Yadkin, and the greater part of the Gold Country of this State, lie within this district. The rocks consist principally of parallel ranges of Clay Slate in perpendicular slabs. A range of sloping hills with rounded summits, presenting a graceful and pleasing outline, that extened from Person through Hillsborough, and southward through Randolph to the Narrows of the Yadkin, is made up almost entirely of these beds of Slate.

Within this district are also found numerous beds of Porphyry, Soapstone, Serpentine, Green-stone, and Hone or Whet-stone Slate. These are contained in beds in the Clay Slate, appearing sometimes in continuous ranges, but more commonly in huge blocks on the surface of the ground. This region is extremely instructive and interesting to the Mineralogist, as it affords a great variety of minerals, many of which are of uncommon elegance ; but I propose to confine myself, in the present Report, exclusively to such a view of these subjects as is connected with the arts and purposes of life. Therefore, after a cursory mention of the miscellaneous contents of this formation, I shall confine my remarks principally to the quarries of Hone-Slate, and the Gold Mines.

The SLATES of this district are of very various complexions. The predominant colour is a yellowish grey ; but we may often find, within a short space, shades of yellow, green, blue and black

The dark varieties are not as common as is usual in so extensive a Slate formation, and I have seen no specimen of genuine Roof-Slate.

Every one knows the uses that may be made of such kinds of Slate as will afford large slabs. Quarries of this kind are numerous in the range under review, and they may be opened almost any where.

In many places, these rocks are largely impregnated with a shining yellow metallic substance called *Pyrites*. It hasa considerable resemblance to Gold, and frequently deludes those who meet with it, with the belief that they have found a mine of the precious metal. It is composed of sulphur and iron; and if it be thrown on a red hot fire-shovel, the sulphur will burn off with its usual blue flame and suffocating odour, and leave nothing behind but the rust of iron. The same substance is frequently found in little cubes, like dice-blocks, scattered over the surface of the ground, having, in most instances, lost their metallic lustre and assumed a liver colour. These, when pulverised and thrown on a red-hot shovel, will give the same indications of sulphur as before. The article itself is entirely useless; nevertheless the rocks that contain large quantities of it in a minute state of division, afford materials for Copperas and Alum. Rocks of this kind, when exposed to the weather, undergo a spontaneous decomposition; the sulphur is changed into sulphuric acid or oil of vitriol, and this unites with the iron and forms Copperas, or with the clay, and forms Alum. One or the other of these substances is frequently met with, forming incrustations on the surfaces of these Slate rocks. The Copperas appears in very fine frost-like crystals, and the Alum in a white mealy powder. Both may be readily detected by their taste. An ore of this kind, affording an unusual proportion of excellent copperas, was sent to me by Judge Murphey. It was obtained near Mr. Moss's, six miles west of Randolph Court-House, where it was said to be very abundant.* Incrustations of Alum appear on the rocks at the foot of "Third Mountain" near Hillsborough, and indeed they may be seen in various other parts of the Slate formation.

Copperas and Alum bear at present so low a price in the market, that it may not be an object now to obtain them from our domestic resources; but whenever our commerce is embarrassed, articles of this description rise so much in value as to make it profitable to manufacture them among ourselves. It may be well, therefore, to point out the usual modes in which they are manufactured. At Strafford, in Vermont, is a manufactory of Copperas conducted in the following manner. The ore is broken into fragments three or four inches in diameter, and thrown into a pile, so arranged as to allow the air to circulate freely through it, and resting on a plank floor so inclined as to permit the solution when formed to run off. Water is now applied either artificially or through the medium of rain. A decomposition commences, attended, when rapid, with great heat, and the evolution of suffocating fumes. In the course of three or four weeks, the whole mass becomes friable and ready to fall into powder. In this state it is lixiviated, like ashes in the manufacture of soap, and thus a solution of Copperas is obtained. This is received into vats, which are placed one below another on a declivity, and so arranged, that the liquor of an upper vat may be easily drawn off into a lower. The bottoms of the evaporating vessels are of lead, and about ten feet square; the sides are of wood about three or four feet high. The bottom is supported by a number of parallel brick walls, placed at a small distance from each other. The avenues or arches between these walls, communicate at one end with an arch in which the fire is placed, and at the other with the common flue. After the liquor has been sufficiently evaporated, it is drawn off into cisterns to crystallize. Branches of trees are put into them as a nucleus for the crystals. When the crystallization has proceeded as far as it will go, the remaining fluid is drawn off, and returned to the evaporating vessels. Very fine crystals form themselves on the branches or shrubs. Four men manufacture one hundred tons of Copperas in a year, besides carrying on the business of a small farm. (American Journal of Science, III, 326.)

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* Copperas ore, arising from the decomposition of the same substance, (namely Pyrites,) is found on the borders of the Neuse River, at Smithfield, and a hundred miles below, where it is probable that a profitable Manufactory of Copperas might be established.

Should any of our Copperas Ore, an article which abounds in this State,* become an object of Domestic Manufacture, probably some useful hints may be derived from the foregoing recital; but the process must be varied to suit the circumstances. Most of the specimens of Copperas Ore which I have seen from the banks of the Neuse, and that from Randolph, were either already in a state of decomposition, or they so easily passed into it, that they would require little or no preparation, but the whole process would consist in lixiviating the Ore in the same manner as ashes are lixiviated, boiling away the solution until a film began to form on the surface, and suffering it to cool. Crystals would be found on the bottom and sides of the vessel. It would, however, be a great advantage to employ shrubs to facilitate the crystallization, as is practised at the Vermont works.

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* A high bluff on Mitchell's River, in Surry County, within ten miles of the Blue Ridge, contains a bed of rocks which are highly impregnated with Copperas and Alum.

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The manufacture of Alum is a more complicated process, and requires, for a superintendant at least, a workman who has been bred to the business. The general method, however, is to expose the Alum Ore for months, or even years, to the action of heat and moisture, by which a slow decomposition is effected, and a solution of the salt is obtained, as in the manufacture of Copperas. A long established and celebrated manufactory of Alum at Hurlet, near Glasgow, in Scotland, and a more recent establishment of the same kind at Salem, Massachusetts, will doubtless afford opportunities to any one who may feel particularly interested in this subject, to obtain all the necessary practical information, or such an agent as would be requisite for conducting the business at home.

2. On the eastern borders of the Slate formation, are found a great number of beds of PORPHYRY. This rock will be easily recognized by its *speckled* appearance, especially when recently broken and dipped into water. It is a hard rock, diversified in its colours, but usually presenting some shade of green, purple or black. It is found either in large irregular blocks on the surface of the ground, or in beds that run parallel with the ranges of Slate, but are easily distinguished from them by occurring in rounded masses instead of laminæ or slabs.* Eight miles east of Hillsborough on the River Eno, are beds of fine green Porphyry. The purple and black varieties are seen in great perfection, six miles west of Chapel-Hill, on the way to Murphey's Mills; and numerous elegant varieties of the same rock are found in the beds of Haw and Rocky Rivers, where these streams cross the eastern ranges of the Slate country.

Porphyry is susceptible of a fine polish, and comes from the hand of the Lapidary a very elegant stone. Its great hardness, however, unfits it for the ordinary purposes of architecture, although it is employed for certain expensive decorations, and superb pillars of Porphyry are met with in some of the Italian Temples. The ancient Egyptians also made great use of it, and some of the most imperishable of their works, as Cleopatra's Needles, were constructed of this substance. The principal use that is made of it at the present day, is for mortars intended for grinding very hard substances, not being liable to wear away, in such operations, like mortars of iron or marble.

3. This Slate formation embraces excellent beds of SOAP-STONE. I have already referred to the Soap-stone of this region in speak-

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* The Mineralogist may collect here a copious assortment of Porphyries. The base is commonly petro-silex, and the porphyritic complexion is imparted by minute pearly white crystals. The petro-siliceous variety accompanies the Novaculite. Clinkstone Porphyry of a dull green colour, with crystals of red Feldspar, is abundant in Haw and Rocky Rivers; and Green-stone Porphyry with large yellowish crystals of Feldspar, occurs quite on the eastern limits of the Slate formation.

ing of those of Wake county, and noticed particularly the bed of this rock which is found near Mr. Redmond's in the eastern part of Orange, which lies within the limits of the district we are now surveying. This is the most elegant Soap-stone I have ever seen. Beds of almost equal elegance occur within the same range, two miles west of Webb's store, in Granville—in the eastern part of Person, not far from the seat of Gen. Moore—in Randolph, on a branch of Sandy Creek—and on the line between this county and Montgomery. In connexion with these beds of Soap stone, Copper has been found in small quantities, in Person, Randolph, Montgomery and Cabarrus. In some instances it may be detected by a green incrustation resembling verdigrise; in others, by the red colour peculiar to metallic Copper.

The uses of Soap-stone have been already sufficiently detailed. I will only add here, that the bed which occurs at Sandy Creek, in Randolph, and that which forms large rocks in the eastern part of Person, are the kinds which, on account of their close, uniform texture, are peculiarly well fitted for the purposes of the arts.

4. SERPENTINE occurs in great abundance on the River Eno, near McKown's Mills. Its quality, however, is inferior to that of Wake, before mentioned.

5. Large masses of GREEN-STONE, a hard rock made up of black and white particles, but wearing, when broken, a greenish complexion, cover more or less of the Slate ridges, often forming the sides of steep hills, or the very summits. Its practical importance is not sufficient to render a more extended account of it necessary to our present purpose.

6. The HONE, OR WHET-STONE SLATE, (the Novaculite of Mineralogists) is by far the most interesting and important among this collection of rocks. In my examination of this region, I have made it an object to ascertain the localities, and the respective qualities and relative values of this substance. It is found in the greatest abundance in various parts of the Slate formation, although the qualities of different beds are various. The most valuable bed that I have met with, is about seven miles west of Chapel-Hill. It is known by the name of M'CAULEY'S QUARRY. It has been opened on the summit of a hill, which forms one of three parallel ranges extending from north-east to south-west, and composed chiefly of a Green Slate, called Chlorite. The Hone Slate occurs in distinct beds, which present on the top, when exposed to view, a more rounded exterior than the Slate Rocks usually do. Although many thousand Hones have been taken from this spot by travellers and others, yet as the quarry has not been wrought for the market, the excavations have been carried to a very little depth, and are insufficient to enable one to judge fully of the extent of the bed. I think how-

ever, that there can be no doubt that its extent is quite adequate to the supply of the market. Being near the brow of the hill, and the bed being perpendicular to the horizon, a large surface on one side might very easily be exposed, and thus the quarrying would be greatly facilitated. Of those specimens which are found at the top of the ground, some are weather-worn and a great difference in quality prevails among those that are obtained from the same spot. The properties which characterise the best variety are the following:

Colour, a soft Olive Green—general aspect, like Horn—the thin edges, when held up to the light, transparent.

The Olive Green colour and the transparent edges are, when they meet, almost sure indications of a good quality.

The best of these Hones answer with great exactness to the description of the genuine Turkey Hones, and I have no doubt that they are indentical with them.* Some of the best specimens, when polished, present a clouded or chequered surface, with a high lustre, and possess no small degree of beauty. Mechanics, in the vicinity of the quarry, frequently supply themselves with masses of eight or ten pounds weight. One side being faced, it is used as a Hone, and is generally valued in proportion to the time it has been in use, for thus it acquires smoothness and hardness. The quality is frequently much improved by becoming thoroughly soaked with oil, and it probably would be still farther improved by boiling in oil, a process which is said to be practised with the Turkey Hones when they happen to be too soft.

The excellence of the Hones obtained at M'Cauley's quarry, is attested by this fact, that our carpenters lay aside, for them, the best Turkey Hones of the market. They combine two qualities that are particularly esteemed, namely, they *wear away* fast, and set a fine edge; that is. their grit is both fine and sharp. Some of them answer well for razors; but their principal use among us is for carpenters' tools. Their value has not yet been settled by actual trial; but several Mercantile Gentlemen whom I have consulted, have been of opinion, that if properly faced and shaped, their price would not be less than fifty cents per pound by wholesale.

Hones very similar to these form an article of considerable traffic in the Mediterranean. They are brought to Marseilles from the Levant in large slabs, and then cut and polished ready for use. Several quarries of our own country afford more or less of this article to the market. What are called the *Arkansaw Hones*, are obtained on the Wachitta River, in Arkansas Territory. They are of the same kind with ours; the description of them, as given by Nutall, in his Travels in that Country, compares well with some of the variety found in this district, although they are of a lighter colour than those obtained at M'Cauley's quarry. These were so much valued, that the first parcels were sold as high as one and two dollars per pound.—(Bringier, Amer. Jour. III. 26.) Oil-stones are also obtained on an Island in Lake Memphramagog, Lower Canada. The quarry is wholly under water, being in some places six inches, and in others three feet below the surface. Notwithstanding these disadvantages, the enterprising inhabitants have erected Mills on the shores of the Lake, where great quantities of these stones are annually prepared for exportation; and within two years after the discovery of the quarries, the profits of the proprietors amounted to *five thousand dollars*.—(Hubbard, Amer. Jour. v, 406.) In Bucks County, Pennsylvania, is a quarry of Oil-stones which is extensively wrought. These sell at twenty-five cents a pound.

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* The following Mineralogical description of the Turkey Hone Slate, applies accurately to the Mineral in question: viz.

It occurs massive—internally it is feebly glimmering—the fracture in the large is straight slaty; in the small, splintery----the fragments are tabular—it is translucent on the edges—it is soft, inclining to semi-hard—it feels rather greasy—colour several varieties of Green, and among the rest Olive Green.—(Jameson's Mineralogy, 1. 439.)

I have recited these facts to show, that quarries of Oil-stones are objects of enterprise abroad, and also to give some idea of the value attached to them. I have good reason for believing, that none of the foregoing surpass such as may easily be obtained at M'Cauley's quarry. *M'Pherson's Quarry*, in Chatham, five miles west of Woodin's Ferry, on Haw River, is next in importance among the Whet-stone quarries that I have visited. It is lighter coloured than the preceding, softer, and has a still finer grit. There are several varieties in the same bed. Some are transparent when in thin pieces, and resemble Horn; others are opaque and of a duller aspect. The former are better fitted for oil, the latter for water. The prevalent colours are a bluish and yellowish white. The grit of these Stones is exceedingly fine, and probably Razor Hones of the best quality may be found amongst them. The bed is extensive: I have observed it crossing the Salisbury Road, a little north of the quarry, where the quality is apparently the same.

On the same road in Randolph, near Deep River, there is found a bed of a similar kind, and also highly valued by the inhabitants.

In the immediate vicinity of Chapel-Hill are several excellent quarries of Whet-stone Slate. At Barbee's Mill, two miles South of this village, is a hill containing a great quantity of this article. It is of a yellowish straw colour and highly transparent.*

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* This is an interesting spot to the Mineralogist. The Novaculite lies between petro-silex, and argillite, and partakes of the characters of both. Some laminæ are

A great number of other localites might be mentioned; but almost every inhabitant of the district now under consideration is acquainted with such beds as have been noticed, in his own vicinity.

The extent of these beds is commensurate with the great Slate formation. I have noticed the genuine Hone Slate, at intervals. from Flat River, in the eastern part of Person, to the Narrows of the Yadkin. They are, therefore, quite inexhaustible, and may become, with suitable enterprize, objects of traffic that will well reward the industrious. The great quantities of this article required to supply the market; the abundance and variety of our quarries; the facilities with which they may be wrought; and above all, their acknowledged excellence and superiority, conspire to invite our attention in no ordinary degree, to this object of enterprize.

As to the mode of quarrying and dressing, mechanical ingenuity will invent different methods to suit different circumstances. The layers being perpendicular to the horizon, it will, in all cases, be advantageous to lay bare a large surface, by removing the earth from the side to a considerable depth, as a preliminary step. A workman accustomed to labour in marble manufactories, would be the proper person to suggest the most convenient modes of cutting and polishing; but by whatever mode this is done, it is important that great pains should be taken to establish the reputation of these Hones, by culling for the market, the choicest varieties, and preparing them in the best possible manner. By the aid of a little water machinery, two or three men could prepare several thousands for market in a year; and all our large cities, as well as those abroad, would afford a ready sale for them. An article so intimately connected with the indispensable arts of life, can never want purchasers if the quality be such as to recommend it above those which are brought into competition with it.*

7. Several objects of subordinate importance occur within the district of country under review, which may deserve a cursory mention. On the farm of Mr. Latta, three miles South of Hillsborough, is a fine vein of a mineral called SULPHATE OF BARYTES

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beautifully arborescent, presenting on a clear, translucent ground, an elegant shrubbery. I have not noticed any appearances of a bed of Manganese at this place, by which metal these dendrites are formed; but at Blackwood's quarry, to be mentioned next, where also the Slate is somewhat dendritic, Manganese appears in considerable veins. The most remarkable appearances of this kind that I have ever seen, are in a bed of Slaty Talc in the County of Cabarrus. The Slates are so beautifully ornamented with these figures that they have acquired the name of the *Calico Rocks*. It is in connexion with a bed of Manganese.

*I have been struck with the fact, that Mr. Nutall's description of the Wachitta Hones, applies equally well to some of our varieties, especially to one variety found at M'Pherson's quarry. Many of our Hones have a great resemblance to Horn-stone, except that they are much softer.—(Vide Nutall's Travels in Arkansas Territory, p. 117.)

or Heavy Spar.* This substance is not very uncommon, but it is rare to meet with it of such purity and elegance as at this place. It is beautifully white and shining, and being heavy like an ore, the proprietor not unnaturally suspected it to contain some metal, and perhaps silver. Although it contains nothing precious, yet considerable use is made of it in the arts. It enters as an ingredient into the finest kinds of porcelain ware; it is used in certain Chemical preparations; and is employed by the painter in forming certain water colours.

Near the centre of the Slate Formation, passing a little westward of Hillsborough and Pittsborough, is a singular collection of White Flint Rocks, (Quartz) which usually lie scattered over the ground in fragments. They are often invested with a black plated metallic substance, which is a rich Ore of Iron.† On account of its appearing so abundantly in this region for so great a distance, I have been led to hope that beds of this valuable Ore of Iron, might be discovered somewhere in the same range; and I have learned from Judge Murphey, that a deposit of considerable but unknown extent, has been discovered in Caswell, ten miles South of the Court-House, and two miles from Anderson's Store. It is capable of yielding from 65 to 75 per cwt. of good Iron. From a locality not far from the same place in Caswell. I have received a specimen of very pure ARMENIAN BOLE. It is a compact, hardened Clay, of a red colour, and when cut and dried, of a smooth, unctuous, shining aspect. Its principal use is for paint. It is prepared for that purpose by pulverising and roasting, by which process its colour is rendered darker and more intense.

White PIPE CLAY, is found in many places within this region. A very good bed is met with near M'Kown's, on the River Eno, seven miles east of Hillsborough; another occurs near the vein of Sulphate of Barytes, before mentioned; and a similar kind has been sent to me from Randolph by Dr. Nixon.

Iron Ore, in addition to that mentioned above, has been discovered in several places within the Slate Formation. From Gen. Gray, of Randolph, I have received specimens of several different kinds of Iron Ore found in his vicinity, although I believe the beds have not yet been much explored. One of the specimens sent by this gentleman, proved to be *Native Iron*, that is, Iron naturally in the metallic, malleable state—a kind that is very rare, and much valued among Mineralogists. But the most considerable bed of Iron

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* Lamellar Sulphate of Barytes---pale sky-blue---lustre shining, very high---foliated---fragments tabular and rhomboidal---crystals of quartz, from an adhering mass of quartz, frequently penetrate the Spar.

† Specular Oxide of Iron

Ore that has been opened in this district, is on Teak Creek, in the western part of Chatham. This Ore was formerly wrought into Castings, and during the Revolutionary War, cannon balls were manufactured of it. The Castings were said not to have been of good quality; yet this defect was probably owing more to want of skill in the manufacturers, than to any natural imperfection of the Ore. The variety* is among the better sort of Iron Ores, though it is said to be better for Bar Iron and for Steel than for Castings. A large proportion of Manganese which it contains makes it brittle. An able writer on these subjects remarks, respecting this variety of Iron Ore, as follows: "It is a very fusible Ore, and commonly yields from 40 to 60 per cent. of Iron. Its Cast Iron is ordinarily inferior to that obtained from the Red Oxide of Iron. Its forged Iron is hard, very malleable, and furnishes excellent Steel. Indeed it may be converted into Steel at about the same expense as into Bar Iron. In this way much of the German Steel is manufactured." (Cleaveland's Mineralogy, 493.) This, it will be remarked, is said of the *species* of Iron Ore to which the one under consideration belongs. Experience must determine how far the remarks are applicable to this. This bed has been abandoned for 30 years, and the quantity of rubbish that has been collected in the Mine, prevented my ascertaining the extent of the deposit.

Not far from this place is a Mineral Spring which appears to be worthy of some attention. It is a very copious Spring, pleasantly situated, and is impregnated with Iron and Salts of Lime and Magnesia.† It seems well adapted, therefore, by its tonic and aperient properties, to the state of invalids during the hot season. Its retired situation, and the want of suitable accommodations, may prevent its becoming a place of as much resort as its medicinal properties entitle it to be.

Simple Chalybeate Springs, where Iron is dissolved by the agency of fixed air, are common in almost every part of this region. The Spring belonging to Judge Norwood, at Hillsborough, is of this character. Such waters are well fitted to relieve the languor induced by a warm climate, and are perhaps more salubrious for frequent and continued use, than the stronger and more complicated Mineral waters.

It only remains now to speak of the Gold Mines that lie in the Southern part of the Slate Formation; but they will furnish materials for a separate article.

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* Brown Hematite—Mamillary and Stalactitic

† Super Carbonate of Iron—in moderate proportion---Sulphate of Lime---Sulphate of Magnesia—enough to give the Spring decided Mineral properties.

ON THE GOLD MINES OF NORTH-CAROLINA.*

The Gold Mines of North-Carolina, which have recently become an object of great inquiry, both at home and abroad, are situated between the 35th and 36th degrees of North Latitude, and near the 81st degree of West Longitude. They are in the southern part of the State, not far from the borders of South-Carolina, and somewhat westward of the centre. Through the Gold Country flows the the River Pedee, receiving within the same district two considerable streams, namely, Rocky River from the south, and Uwharee River from the north. Above the junction with the Uwharee, the Pedee bears the name of Yadkin. The Gold Country is spread over a space of not less than 1000 square miles. On a map of the State, one may easily trace the general boundaries, so far at least as they have been hitherto observed. From a point taken 8 miles west by south of the mouth of Uwharee, with a radius of 18 miles, describe a circle—it will include most of the County of Montgomery, the northern part of Anson, the north-eastern corner of Mecklenburg, Cabarrus as far as a little west of Concord, and corners of Rowan, Davidson, and Randolph. Perhaps the limit extends a little farther into Mecklenburg than is here described.† In almost any part of this region, Gold, in greater or less abundance, may be found at or near the surface of the ground.

Its true bed, however, is a thin stratum of gravel enclosed in a dense mud, usually of a pale blue colour, but sometimes yellow. On rising grounds exposed to be washed by rains, this stratum frequently appears at the surface; but in bottoms, where the alluvial earth has been accumulated by the same agent, it is found to the depth of eight feet; where no cause operates to alter its original depth, this appears to be about three feet below the surface. Rocky River, and its small tributaries, which cut through this stratum, have hitherto proved the most fruitful localities of the precious metal.

The Gold Country occupies the southern part of the Slate Formation, and I had supposed this to be the peculiar repository of the Gold; but a personal examination discovered that the same stratum of mud and gravel, extends beyond the slate on the west in the vicinity of Concord, over a region of Granite.

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* A paper on this subject, accompanied by some Geological speculations not consistent with the nature of this Report, was communicated to the American Geological Society at their last annual meeting, and is now in the progress of publication in the American Journal of Science.

† Recent discoveries have given a little wider extent to the Gold Country than that which is here indicated

The principal Mines are three—the Anson Mine, Reed's Mine, and Parker's Mine.*

The *Anson Mine* is situated in the County of the same name, on the waters of Richardson's Creek, a branch of Rocky River. This locality was discovered only two years since by a "Gold Hunter," one of an order of people that begin already to be accounted a distinct race. A little rivulet winds from north to south, between two gently sloping hills that converge towards the south. On each side of the stream is a level space, forming an extended bed, which during the wet seasons of the year is covered by it, but was dry at the time of my visit. On digging from three to six feet into this bottom, we come to that peculiar stratum of gravel and tenacious blue or yellow clay, which is at once recognised as the residence of the Gold. The stream itself usually gives the first indication of the richness of the bed through which it passes, by disclosing large pieces of the precious metal, shining among its pebbles and sands. Such was the hint afforded to the discoverer of the Anson Mine. Unusually large pieces were found by those who first examined this place, calculated to inspire the highest hopes. On inquiry, it was ascertained, that some of the lands were not held by a good title, and parcels of it were immediately *entered*. It has since been a subject of constant litigation, which has retarded the working of the Mine.

Reed's Mine in Cabarrus, is the one which was first wrought, and at this place indeed were obtained the first specimens of Gold that were found in the Country. A large piece was found in the bed of a small creek which attracted attention by its colour and lustre; but it was retained sometime in the hands of the proprietor, through ignorance whether it were Gold or not. Reed's Mine occupies the bed of Meadow Creek, a branch likewise of Rocky River. It exhibits a level between two hillocks which rise on either side of the creek, affording a space between from 50 to 100 yards in breadth. This space has been nearly all dug over, and it exhibits at present numerous small pits, surrounded with piles of rubbish, for the distance of a quarter of a mile up and down the stream.

The first glance is sufficient to convince the spectator, that the business of searching for Gold is conducted under numerous disadvantages, without the least regard to system, and with very little aid from mechanical contrivances. The process is as follows: During the dry season, when the greatest part of the level above described is left bare, and the creek shrinks to a small rivulet, the workman selects a spot at random, and commences digging a pit with his spade and mattock. At first he penetrates through three or four feet of dark coloured mud, full of stones in angular fragments. At this depth, he meets with that peculiar stratum of gravel and tenacious blue earth, which he recognises as the matrix of the Gold. If the mud be very dense and tenacious, he accounts it a good sign; and if stains or streaks of yellow occasionally appear on the blue mud, it is a favorable symptom. Sometimes, he penetrates through a stratum of the metal called Manganese—a black shelly substance which the workmen call "Cinders." This he regards also as a favorable omen. Having arrived at the proper stratum, which is only a few inches thick, he removes it with a spade into the *cradle*. This is a semi-cylinder laid on its side (like a barrel bisected longitudinally and laid flat-wise,) and made to rock on two parallel poles of wood. The cradle being half filled with the auriferous earth, water is laded in so as nearly to fill the vessel. The cradle is then set to rocking, the gravel being occasionally stirred with an iron rake, until the coarse stones are entirely freed from the blue mud—a part of the process which is the more difficult on account of the dense adhesive quality of the mud itself. By rocking the cradle rapidly, the water is thrown overboard, loaded with as much mud as it is capable of suspending. The coarser stones are then picked out by hand, more water is added, and the same process is repeated. On pouring out the water by turning the cradle on one side, a layer of coarse gravel appears on the surface, which is scraped off by the hand. At the close of each process, a similar layer of gravel appears on the top, which becomes more and more comminuted, until it graduates into fine sand covering the bottom of the cradle. At length this residuum is transferred to an iron dish, (a frying-pan without its handle,) which is immersed horizontally in a pool of water and subjected to a rotary motion. All the remaining earthy matter goes overboard, and nothing remains but a fine sand chiefly ferruginous, and the particles of Gold for which the whole labour has been performed. These are sometimes no larger than a pin's head, although the grains vary in size, from mere dust to one or two pennyweights. Larger pieces are usually picked out by hand at a previous stage of the process.

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* Since the above was written, Barringer's Mine has become one of the most noted.

Large pieces of Gold are found in this region, although their occurrence is somewhat rare. Pieces of 400, 500, or 600 pennyweights are met with, and one mass was found that weighed 28 pounds. This was dug up by a negro at Reed's Mine, within a few inches of the surface. Its value was towards 8000 dollars. Various marvellous stories are told respecting this rich mass; as that it had been seen by Gold Hunters at night reflecting so brilliant a light when they drew near to it with torches, as to terrify them and deter them from farther examination. But all stories of this kind, as I was assured by Mr. Reed, the old proprietor, were mere fables. No unusual circumstances attended the discovery of this mass. It is a pity that so fine a piece should not have been reserved for a specimen. It would probably have brought more than its intrinsic value, and might have adorned the collections of royalty. But it was melted down and cast into bars soon after its discovery. Another mass weighing 600 pennyweights, was found on the surface of a ploughed field in the vicinity of the Yadkin; and, by recent statements in the newspapers, I learn, that since my visit, a piece has been found at Parker's Mine that weighed four pounds and eleven ounces. The largest piece hitherto found in Europe, weighed only twenty-two ounces; this was met with at the Mines of Wicklow, in Ireland.—(Jameson's Mineralogy, III. 10.) It is said that a piece of Gold was found in Peru, in the year 1730, of the weight of 45 pounds. A traveller in Paraguay reports, that when a projecting part of one of the highest mountains in that country fell down about 30 years ago, pieces of Gold weighing from two to fifty pounds each were found in it.—(Phillip's Min. 323.) Reports have lately been circulated in the newspapers, of still larger pieces having been found in a small Island near Tortola, in the West Indies; but I have met with no well authenticated account of any mass of Gold having been found that weighed more than 50 pounds, and the preceding statements show that the discovery of a mass of more than a few ounces in weight, is a rare occurrence in any country. Specimens of great elegance, as I should infer from the descriptions of the miners, are occasionally found among our Gold Mines; but for want of Mineralogists to reserve them for Cabinets, they have always been thrown into the common stock. Mr. Reed found a mass of White Flint (quartz,) having a projecting point of Gold of the size of a lage pin-head. On breaking it open, a very brilliant display of green and yellow colours, was presented, which he described as exceedingly beautiful. The Gold weighed 12 pennyweights. Perhaps this was a congeries of crystals; but on that point the proprietor could not inform me. If specimens of this kind could be conveyed to Mineralogists, they would often bring more than their simple value as Gold.

It may be interesting, especially to those who live within the district, where the Gold occurs, to have an opportunity of comparing this deposit of the precious metal with others in various parts of the world.

From the free use that was made of Gold, by the Israelites, in the structure of the Ark, and from the great quantities that were sometimes accumulated in some of the Heathen Temples, as at Delphi, we might infer, that this article was more abundant in ancient than it is in modern times;[*] and it is undoubtedly a fact that the sands of certain rivers as the Tagus, the Po, and the Pactolus, were more productive of Gold formerly, than they are at present; but no small part of all that was possessed by the ancients, was displayed either in their temples,[‡] or in the regalia of their Princes. According to Humboldt, the total *annual* produce of the South American Mines of Gold, is 45,580 pounds Troy. The amount of North-Carolina Gold received at the Mint of the United States, previous to the year 1820, was about $40,000; but a considerable part of what has been found has been worked up by Jewellers, and more or less still remains in Banks, nor have I any data which will enable me to ascertain the total amount obtained at these mines.

No country on the globe is entirely destitute of native Gold, but South America has exceeded all other regions in the richness of its mines of this metal. Gold is found at the foot of the Andes, nearly throughout the whole extent.

Sometimes Gold is found in veins that traverse the hardest rocks, and the metal itself is not unfrequently incorporated with hard flinty substances. In this case, the rocky masses are broken in pieces, and those which contain Gold, although but a few spangles, are sorted with great care, and then brought to the state of powder by heavy machinery. It is now ready for *washing*, being brought to the state in which the Gold of our Mines is fortunately presented to us by nature itself. Indeed much the greatest portion of Gold is obtained in such a state of minute division, either in the sands of rivers, or in a deposit of gravel and mud, like that of our Gold formation. The Mines of Brazil, both of Gold and of Diamonds, as described by Mawe in his Travels in that country, are very similar to ours. The process of washing as practised at the mines of Paraguay and Santa Rita, resembles that employed by our Miners, except that the earlier parts of the operation are facilitated by artificial jets or currents of water on an inclined plane. By this means, many tons weight of the matrix of gravel and mud which contain the Gold, called by them *Cascalhao*, is subjected to the action of running water at once. The Cascalhao thus reduced, is then taken up in bowls of a conical shape, and washed by hand by immersion in water, as is practised at the mines of Cabarrus. (Mawe's Travels in the Interior of Brazil, p. 83 & 133.)

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[*] In the 1st book of Kings, x. 14, it is related that Solomon received 666 talents (more than 27 tons) of Gold in one year. Diodorus says, that the tomb of King Simandius, was environed with a circle of Gold three hundred and fifty cubits about, and a foot and a half thick. Semiramis erected in Babylon three statues of Gold, one of which was forty feet high, and weighed a thousand Babylonian talents. For these statues there was a table or altar of Gold forty feet long, and twelve feet broad, weighing fifty talents. (Jameson's Mineralogy, III, 14.)

[‡] Vide Anarcharsis II, 7. When the Phocians seized on the Temple of Apollo at Delphi, the Gold and Silver which they melted into bullion, were estimated at more than £2,250,000 sterling.

It is obvious that when the processes of washing are equally well conducted, the profits will depend very much on the price of labour. In England, the sand of any river is considered as worth washing for the Gold it contains, provided it will yield twenty-four grains or one penny-weight in the hundred weight; but the sand of the African rivers often yield sixty-three grains in not more than five pounds weight; which is in the proportion of fifty times as much. At the Mines of Santa Rita in Brazil, the proprietor obtains only at the rate of from fourteen pence to two shillings (sterling) for each negro per day; but the subsistence of the labourer costs him less than a penny a day. The produce of our Mines is so variable that it may be difficult to fix on an average. When Reed's mine was first opened, the success was much greater than it is at present. I was informed, by a gentleman who was employing a number of hands at this place, at the time of my visit, that the average product is not more than sixty cents per day.

Any one who inspects these Mines with attention, cannot but see that the labor is conducted under many disadvantages.' So far as manual dexterity is concerned, our Miners do not appear inferior to any whom I have read of; and the *cradle* before described, in which the coarser matters are separated with great facility, appears to be a fortunate peculiarity, and far preferable to the inclined tables with grooved channels, that are employed in washing the auriferous sands of Hungary; but that the business is still very imperfectly conducted, is obvious, from the fact that tolerable wages are made at Reed's mine by washing over earth that has been already subjected to the same process. A Company, with a large capital, led by men of system, aided by ingenious mechanics, would probably make this concern more profitable than it can be under its present management. A large river like the Yadkin, which cuts through the Diamond Mines of Brazil, has been laid bare for some extent, its channel being turned out of its former course; and in some more enterprizing age, it is not improbable that Rocky River, and its small but proud tributaries, will be made, by a similar process, to confess the treasures which they now conceal. Among the improvements that may hereafter be made in working these mines, we may possibly find the following:

1. The body of earth which covers the Gold Stratum may be removed, not in single pits, as at present, but from a large extent of ground at once, exposing to view a corresponding quantity of the Gold earth to be subjected to a single operation.

2. Currents of running water, on inclined planes, may greatly facilitate the earlier stages of the process.

The pebbles and fragments that compose the accompanying gravel, however, are of such a kind as to render it somewhat probable, that the materials of this auriferous stratum were derived from the great Slate Formation.*

4. The supposition that the neighbouring rocks conceal veins of Gold in the state of Ore, is rendered improbable by the fact, that Gold is not like the baser metals, disguised by nature so as to pass unobserved, but it wears in every situation its marks of royalty.

Not to pursue these speculations farther, I beg leave to refer such as may be particularly interested in this subject to a paper of mine communicated to the American Geological Society, and now publishing in the American Journal of Science.

◆

Several other objects presented themselves to my notice during my excursion, which lie westward of the Slate Formation; particularly a bed of Iron Ore, on the Catawba road, and near it, at Mr. M'Mackin's in the north-eastern corner of Cabarrus, a rich bed of Manganese, and another of the same metal crossing the road from Salisbury to Beard's Bridge. But these I must leave for another part of this Report, should our enterprise be continued. The next region to be surveyed on the west of the great Slate Formation, will carry us to the mountains, embracing, so far as I can judge from what I have already seen of it, a Geological district, very diversified and interesting in its characters.

November 10, 1824.

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* Since the foregoing was written, *veins* of Gold in Quartz, traversing the Slate, are said to have been found, and one or two other places, particularly Baringer's Mine, have become as noted as those which we have described.

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mountains northward into the Arctic Sea.

Several years since Baron Von Humboldt expressed to Mr. Sanford, our Minister to Belgium, the confident belief that the mountains of Virginia would be found to be a rich deposit of diamonds. And in confirmation of this suggestion of one who could read the surface of the earth as an expert in natural science recognizes a fish by its bones or its scales—as if in exemplification of the philosophic theory of Humboldt, we see it announced, in the southern portion of the continent, that diamonds and other precious stones have already been discovered.

We know comparatively nothing of the mineral character, resources, or wealth of the metalliferous regions of our country. It is only when we shall stand in the council of scientific men, representing all parts of the world, and thoroughly conversant with its wondrous developments, our own resources fully and justly represented, that we shall be able to estimate their value.

I need not speak of the petroleum discoveries in the view or with the spirit of speculation. I have no eye for speculation. I never saw in my life a share of stock or scrip of any sort

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TUESDAY EVENING, AUGUST 13, 1839.

Statement of the coinage at the several branch Mints during the half year ending on the 30th of June last:

GOLD.

	Half Eagles.	Qr. Eagles.	Value dollars.	Total.
Charlotte,	7,210	10.760	62,950 00	62,950 00
Dahlonega,	6,573	13,673	67,047 50	67,047 50

SILVER.

	Half Dimes.	Dimes.	Half Dollars.	Value Dollars.	
N. Orleans,	800,000	731,600	220,000	223,160	223,160 00
					$353,157 50

[illegible] - - - 23
Soapstone of - 27-24
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Decimals of a Dwt.

Grs		Grs.	
1	.0416	12	.5
2	.083	13	.5416
3	.125	14	.583
4	.1666	15	.625
5	.208	16	.666
6	.25	17	.708
7	.2916	18	.75
8	.333	19	.7916
9	.375	20	.833
10	.4166	21	.875
11	.458	22	.9166
		23	.958

DWTS.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1
0	.0000	.0021	.0042	.0063	.0083	.0104	.0125	.0146	.0167	.0188	.0208	.0229	.0250	.0271	.0292	.0313	.0333	.0
1	.0500	.0521	.0542	.0563	.0583	.0604	.0625	.0646	.0667	.0688	.0708	.0729	.0750	.0771	.0792	.0813	.0833	.0
2	.1000	.1021	.1042	.1063	.1083	.1104	.1125	.1146	.1167	.1188	.1208	.1229	.1250	.1271	.1292	.1313	.1333	.1
3	.1500	.1521	.1542	.1563	.1583	.1604	.1625	.1646	.1667	.1688	.1708	.1729	.1750	.1771	.1792	.1813	.1833	.18
4	.2000	.2021	.2042	.2063	.2083	.2104	.2125	.2146	.2167	.2188	.2208	.2229	.2250	.2271	.2292	.2313	.2333	.2
5	.2500	.2521	.2542	.2563	.2583	.2604	.2625	.2646	.2667	.2688	.2708	.2729	.2750	.2771	.2792	.2813	.2833	.28
6	.3000	.3021	.3042	.3063	.3083	.3104	.3125	.3146	.3167	.3188	.3208	.3229	.3250	.3271	.3292	.3313	.3333	.33
7	.3500	.3521	.3542	.3563	.3583	.3604	.3625	.3646	.3667	.3688	.3708	.3729	.3750	.3771	.3792	.3813	.3833	.38
8	.4000	.4021	.4042	.4063	.4083	.4104	.4125	.4146	.4167	.4188	.4208	.4229	.4250	.4271	.4292	.4313	.4333	.4
9	.4500	.4521	.4542	.4563	.4583	.4604	.4625	.4646	.4667	.4688	.4708	.4729	.4750	.4771	.4792	.4813	.4833	.4
10	.5000	.5021	.5042	.5063	.5083	.5104	.5125	.5146	.5167	.5188	.5208	.5229	.5250	.5271	.5292	.5313	.5333	.53
11	.5500	.5521	.5542	.5563	.5583	.5604	.5625	.5646	.5667	.5688	.5708	.5729	.5750	.5771	.5792	.5813	.5833	.58
12	.6000	.6021	.6042	.6063	.6083	.6104	.6125	.6146	.6167	.6188	.6208	.6229	.6250	.6271	.6292	.6313	.6333	.6
13	.6500	.6521	.6542	.6563	.6583	.6604	.6625	.6646	.6667	.6688	.6708	.6729	.6750	.6771	.6792	.6813	.6833	.6
14	.7000	.7021	.7042	.7063	.7083	.7104	.7125	.7146	.7167	.7188	.7208	.7229	.7250	.7271	.7292	.7313	.7333	.7
15	.7500	.7521	.7542	.7563	.7583	.7604	.7625	.7646	.7667	.7688	.7708	.7729	.7750	.7771	.7792	.7813	.7833	.78
16	.8000	.8021	.8042	.8063	.8083	.8104	.8125	.8146	.8167	.8188	.8208	.8229	.8250	.8271	.8292	.8313	.8333	.83
17	.8500	.8521	.8542	.8563	.8583	.8604	.8625	.8646	.8667	.8688	.8708	.8729	.8750	.8771	.8792	.8813	.8833	.88
18	.9000	.9021	.9042	.9063	.9083	.9104	.9125	.9146	.9167	.9188	.9208	.9229	.9250	.9271	.9292	.9313	.9333	.9
19	.9500	.9521	.9542	.9563	.9583	.9604	.9625	.9646	.9667	.9688	.9708	.9729	.9750	.9771	.9792	.9813	.9883	98
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		

19	20	21	22	23	DWTS
.0396	.0417	.0438	.0458	.0479	0
.0896	.0917	.0938	.0958	.0979	1
.1396	.1417	.1438	.1458	.1479	2
.1896	.1917	.1938	.1958	.1979	3
.2396	.2417	.2438	.2458	.2479	4
.2896	.2917	.2938	.2958	.2979	5
.3396	.3417	.3438	.3458	.3479	6
.3896	.3917	.3938	.3958	.3979	7
.4396	.4417	.4438	.4458	.4479	8
.4896	.4917	.4938	.4958	.4979	9
.5396	.5417	.5438	.5458	.5479	10
.5896	.5917	.5938	.5958	.5979	11
.6396	.6417	.6438	.6458	.6479	12
.6896	.6917	.6938	.6958	.6979	13
.7396	.7417	.7438	.7458	.7479	14
.7896	.7917	.7938	.7958	.7979	15
.8396	.8417	.8438	.8458	.8479	16
.8896	.8917	.8938	.8958	.8979	17
.9396	.9417	.9438	.9458	.9479	18
.9896	.9917	.9938	.9958	.9979	19
19	20	21	22	23	

TU

Sta
Mints
June

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Memorandum 31. aug [illegible]

Amount of Gold Bullion recd in the U. S. Br. mint at Charlotte, from Commencement of operations (4th Dec 837.) to 31st August 1838

5.006.319 oz = $ 93.102.10

Amt. of coin pd Depositors.	46.063.82
" " Coin in Treasury vault.	13.505.82
" " Bullion in same.	1.700.51
" " " in Melter & Refiner's hands	15.602.40
" " " Coiner's hands.	16.213.23
" Profit & Loss in assay pieces sent to Phil.a.	16.32
	$ 93.102.10

Due United States for amt. to purchase metal for coinage	30.000.
Due depositors (31. aug. 38)	17.273.87
	$ 47.273.87
Coin in hand	13.505.82
Bullion in hand	1.700.51
" Peoples dep.	251.91
In Coiner's hands	16.213.23
In Melter & Refiner's hands	15.602 40
	$ 47.273.87

Rec^d for coinage at Br. Mint of U. S at Charlotte from 4th Dec 1837 to 31 Dec 1838, 7.076.026 oz of Standard Bullion equal in value to $131.698.45

Coined during 1838, 12 886 Half & 7.894 Qr Eag^s = $84.165.00

Bullion rec^d for coinage, & coinage of 1839.

Amt rec^d in.	Oz	dec.	Value.		Denomination. ½ Eagles.	¼ Eagles	Value.
January	319	694	5.947	48	no coinage	in	this month
Febuary	627	770	11 679	14	2 204..		11.020
March	467	390	8695	24		5892	14.730.
April	184	987	3 441	38	1 44 2054		1.720 10.320.

May	1.063 637	19.787 94		4.868	12.171 -	
June	468 370	8.713 38	1.172		5.860 .	
July	894 373	16 638 98	2.545 1.612	2554.	27.145	
August	667 601	12.984 85				
Sept:	131 662	2449.34	2704 2.[illegible]	- .	13.520 12.520	
Oct	1.003 032	18.672 46		1533	3832	50
Nov	451 378	8397 33	3507.		17.535	
				3.336 . .	.5.340	9 Dec
			2160		10.800	30 do.
Dec	506 826	9.428 88	1 071 . . .		5.355	31. do.
	6.817. 730.	126.836 40.	23.467	18 173	$162.767.	50

Month	Bullion oz	dec.	1840 dolls.	cts	Coinage ½ Ea.	¼ Ea	Value	
					No	coinage	this	month
Jan.y	286.	777	5.335	02				
Feby.	978	178	18.198	19	Do	"	"	"
March	209	562	3.898	56	1.970		9850.	
April	760	537	13.032	80	2.210		11.050	
May	391	420	7290	96	2560		12800.	
June	334	653	6225	73		3.530	8825	
July	831	280	15.464	93	1980		9.900	
August	377	490	7022	64	1952	3.390	18235	
Sep.t	940	794	17.512	71	1820		9100	
Oct.r	832	188	15482	48	2206		11030	
Nov.r	754	535	[illegible]	[illegible]	2313		1[illegible]515.	
Dec.r	220	059	4094	13	2027	5.918	24.930	
	5 857.	973	127.585.	91	19028	12.838.	127.235.	

1841.

Memorandum of BULLION COINAGE

Month.	Amount. oz	dec	Value dolls.	cts	Half.	Quarter Dia.s	Value dolls	cts
Jany								
Feby								
March.								
Apl								
May								
June.								
July								
Aug.								
Sept								
Octr								
Novr								
Decr								

[illegible]

[illegible]

[illegible] 43.15

[illegible] 41.

[illegible] 2.13

43.15	2.13
24	24
17	48
16	13
13	61 9

61) 1035 (17. [illegible]

61

425

427

Table of Specific Gravities

		c[illegible]
11.1[illegible]	4 [illegible] pr cent	40
13.913	Do	51
14.2[illegible]0	Do	65
14.[illegible]	Do	65
15.[illegible]	D	66
16.5[illegible]	Ame[illegible]	75
15.820	Ho[illegible]	77
16.5[illegible]0	Ham[illegible]	82
17.1[illegible]0	Archibald	[illegible]
17.201	Bin[illegible]	87
17.450	Cathem	[illegible]
17.730	Clarke	95
17.610	Ha[illegible]	91
17.950	[illegible]	92
18.	[illegible]	[illegible]
18.130	[illegible]	[illegible]
18.2[illegible]0	[illegible]	100
18.4[illegible]	[illegible]	[illegible]
18.640	[illegible]	102
18.[illegible]3[illegible]	Do	[illegible]
[illegible]10	[illegible]	[illegible]